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Marketing Tokay Grapes

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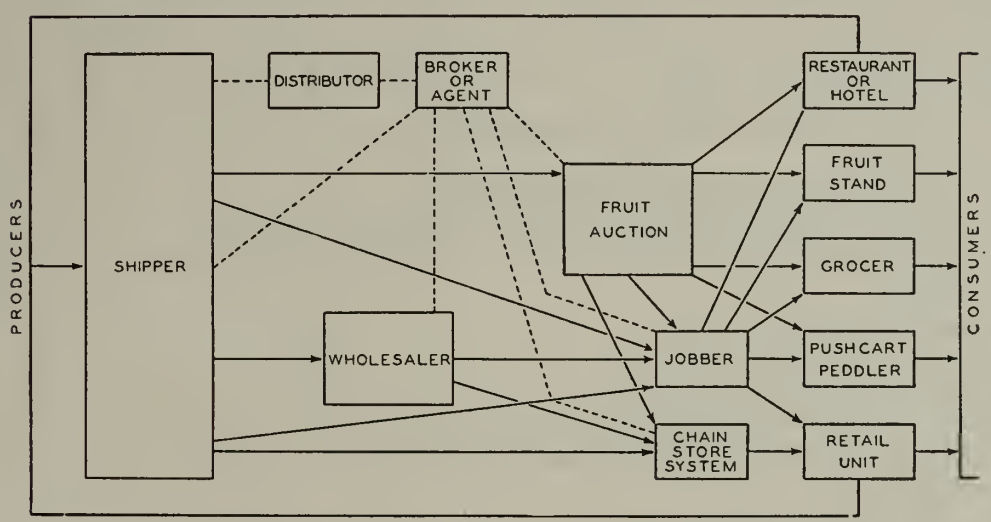

Principal Trade Channels for Tokay Grapes.

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MARKETING TOKAY GRAPES[1, 2]

E. A. STOKDYK[3]

INTRODUCTION

The purpose of this study was to determine what changes in the relations between growers and marketing agencies might be made to increase the net returns to Tokay grape growers.

With this purpose in view data were assembled to ascertain (1) the factors affecting the prices of Tokay grapes, both annually and seasonally, in all market areas and seasonally in the eleven principal auction markets, (2) the trade channels employed, and (3) the trade relations which prevail in the marketing of Tokay grapes. Certain other data were obtained, such as the records of acreage and production and a history of the attempts which have been made by various organizations to undertake marketing functions, which would aid in an understanding of the marketing of Tokay grapes.

The growers and shippers of Tokay grapes have been parties to numerous marketing arrangements sponsored by various organizations including the California Fruit Distributors (1901–1926), the Lodi Growers and Shippers League (1919–1924),[4] a clearing house conducted by the California Vineyardists Association (1926–1929),[5] a clearing house sponsored by the California Grape Control Board (1930–1932),[6] and a surplus control plan promulgated by the latter organization.[7]

The foregoing organizations had several objectives in common, the principal one of which was the planning of the distribution of grapes among the most important market areas. Other objectives included the collection and dissemination of statistical information relative to acre-

[1] Received for publication March 31, 1933.

[2] Paper No. 42, the Giannini Foundation of Agricultural Economics.

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[4] For history, objectives, and attainments of the Lodi Growers and Shippers League, see: the Stockton Record, Nov. 16, 1921; the Lodi Sentinel, June 29, 1921; the Lodi News, Oct. 5, 1923; and the Lodi Sentinel, Jan. 5, 1924.

[5] Conn, Donald D. The California vineyard industry. (Five-year report.) California Vineyardists Association. San Francisco, California, April, 1932.

[6] Stillwell, E. W. Tokay crop sells well in 1931. California Grape Control Board. San Francisco, California. April, 1932. (Mimeo.)

[7] Stokdyk, E. A. The Farm Board's proposal for stabilizing California grape industry. Jour. Farm Econ. 12:467–468. 1930.

age, production, and prices; the standardization of packs, packages, and grades; and the handling of matters coming before courts and commissions which affected the grape industry.

The Lodi Growers and Shippers League had an additional objective—the proration of empty cars among grape shippers in the Lodi area during periods of car shortage.

The California Grape Control Board had a further objective, namely, that of eliminating the surplus of grapes if and when the Grape Control Board determined that a surplus existed. Stabilization fees were to be collected on each ton of raisins, juice, and table grapes, which were to be used to purchase surplus grapes and allow them to remain unharvested or convert them into by-products.

The Control Board's surplus operations in 1930 were based on the assumption that the principal excess above normal market requirements was in the raisin varieties, principally Muscats and Thompson Seedless, which entered both the fresh and dried-fruit markets. It was felt by fresh and juice-grape shippers on the Control Board that their principal difficulty was caused by the shipment of raisin varieties into fresh channels. Consequently, most of the funds available for the purchase of surplus grapes were employed in the purchase of raisin grapes.[8] However, as the season progressed and after the Control Board's funds for the purchase of grapes were exhausted, it became apparent that there was a quantity of other varieties in excess of normal market requirements, among them Tokays. Several groups of growers thereupon instructed the agencies through whom they marketed not to pay the stabilization fees inasmuch as the Control Board could not purchase the surplus of the varieties which they raised. The Control Board brought suits against the marketing agencies to collect the fees, most of which were compromised out of court.

The friction caused by the foregoing situation and the probability of the dissolution of the California Grape Control Board in 1932 resulted in a division of opinion among growers and among shippers as to ways and means of increasing returns to Tokay grape growers. Several groups of Tokay grape growers, through the Orchard and Vineyard Department of the San Joaquin County Farm Bureau, requested the Giannini Foundation of Agricultural Economics (April, 1932) to make an analysis of the marketing of Tokay grapes and make recommendations according to the findings.

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[8] A total of 352,081 tons of raisin grapes, 19,308 tons of table grapes, and 16,185 tons of juice grapes was purchased in 1930 by the California Grape Control Board. See: California Grape Control Board. Report to the Federal Farm Board on 1930 operations. Exhibits B and C. San Francisco, California, Jan. 14, 1931. (Mimeo.)

ACREAGE AND PRODUCTION

Records on Tokay acreage and production are available for 1930 only. The California Crop Reporting Service estimates annually the acreage and production of grapes according to classes—table, juice, and raisin—but does not make estimates by varieties.

Table 1, compiled from the records of the California Grape Control Board, shows approximately 30,000 acres of Tokays in California, with a production of nearly 154,000 tons in 1930. The acreage is concentrated in two counties, San Joaquin and Sacramento, with 59.4 and 29.7 per

TABLE 1

Tokay Grape Acreage and Production by Principal Counties in California, 1930

County	Acreage		Production	
	acres	*per cent*	*tons*	*per cent*
San Joaquin	17,700*	59.4	117,400*	76.4
Sacramento	8,859	29.7	25,067	16.3
Stanislaus	482	1.6	3,081	2.0
Placer	406	1.4	950	0.6
Merced	393	1.3	1,557	1.0
All others	1,965	6.6	5,729	3.7
Total	29,805	100.0	153,784	100.0

* Based on a survey of 98 per cent of the total grape acreage in San Joaquin County.

Source of data:
Shear, S. W. California grape acreage, production, yields, and acreage per farm. A preliminary statistical summary. California Agr. Exp. Sta. 1932. (Mimeo.)

cent respectively. Production is heaviest in San Joaquin County with 76.4 per cent of the total in 1930.

Detailed records are lacking to show the trend in acreage and production, but it is stated by those familiar with the situation that between 1920 and 1922 there was a marked increase in acreage;[9] but since 1925 the acreage has remained practically stationary. However, approximately 12 per cent of the acreage is not yet in full bearing.[10]

SHIPMENTS AND PRICES

Annual Shipments.—Interstate shipments of Tokay grapes have fluctuated between 3,982 and 7,456 carloads during the period 1921 to 1932 (table 2). Shipments of Tokays averaged 25 per cent of total California table-grape shipments during this same period.

[9] The Lodi News, Nov. 11, 1922.

[10] Growers estimate that a Tokay vineyard reaches full bearing when it is from eight to twelve years old, the age depending upon methods of production.

During some years, particularly in 1925, 1927, 1928, and 1930, a considerable portion of the Tokay crop was unharvested, primarily because of low prices. In 1922 a car shortage prevailed. Official estimates of the

TABLE 2

ANNUAL INTERSTATE SHIPMENTS OF CALIFORNIA TABLE GRAPES, INCLUDING THOMPSON SEEDLESS, TOKAY, AND EMPEROR GRAPES, ANNUAL DELIVERED AUCTION PRICES FOR TOKAY GRAPES ON ELEVEN AUCTION MARKETS, AND ALL-COMMODITY INDEX OF WHOLESALE PRICES, 1921–1932

Year	Interstate shipments of				Average price per package* for Tokay grapes	All-commodity index of wholesale prices
	Total, all California table grapes	Tokay grapes	Emperor grapes	Other California table grapes		
	1	*2*	*3*	*4*	*5*	*6*
	carloads	*carloads*	*carloads*	*carloads*	*dollars*	*1926=100*
1921	13,100	4,500	2,200	6,400	2.18	97.6
1922	18,800	4,400	3,100	11,300	1.91	96.7
1923	23,500	5,900	4,500	13,100	1.72	100.6
1924	25,600	5,900	5,300	14,400	1.53	98.1
1925	29,600†	7,125	4,800	17,675	1.20	103.5
1926	27,000†	5,872	4,300	16,828	1.43	100.0
1927	27,700	6,835	5,317	15,548	1.40	95.4
1928	30,200	7,456	6,201	16,533	1.31	97.7
1929	24,600	5,613	3,642	15,345	1.42	96.5
1930	24,200	7,670	4,608	11,922	1.14	86.3
1931	17,300	4,109	3,886	9,305	1.59	71.1
1932	15,200†	3,982†	3,660†	7,558†	1.11†	65.0†

* Packages consist of crates of 29 pounds gross weight and lugs of 31 pounds gross weight. Since 1928 most packages were lugs.

† Subject to revision.

Sources of data:

Col. 1: Data compiled by: S. W. Shear, Giannini Foundation of Agricultural Economics, from various sources and converted to a 13-ton carload. For a partial list of the sources see: Mallory, L. D., S. R. Smith, and S. W. Shear. Factors affecting annual prices of California fresh grapes, 1921-29. Hilgardia **6**:106. 1931.

Col. 2: For 1921: from Shear, S. W., and H. F. Gould. Economic status of the grape industry. California Agr. Exp. Sta. Bul. **429**:46. 1927.

For 1922-1924: estimated by S. W. Shear and the author from the records of the Agricultural Commissioner's Office of San Joaquin County and the records of the California Fruit Distributors Association and the California Fruit Exchange.

For 1925 and 1926: from Schultz, C. E. Marketing California grapes, summary of 1926. U. S. Dept. Agr. Bur. Agr. Econ. p. 76. 1927. (Mimeo.)

For 1927-1931: from Cox, W. F. California grapes. Annual summary, season of 1931. U. S. Dept. Agr. Bur. Agr. Econ., California State Dept. Agr., and California Grape Control Board, cooperating. p. 89. April, 1932. (Mimeo.)

Col. 3: For 1921-1926: estimated from the records of the California Fruit Distributors and the California Fruit Exchange.

For 1927-1931: from Cox, W. F. California grapes. Annual summary, season of 1931. U. S. Dept. Agr. Bur. Agr. Econ., California State Dept. Agr., and California Grape Control Board, cooperating. p. 83. April, 1932. (Mimeo.)

Col. 4: Col. 1 minus cols. 2 and 3.

Col. 5: For 1921-1923: data furnished the author by E. W. Stillwell, of the California Grape Control Board.

For 1924-1932: from the same sources as col. 2.

Col. 6: From the annual and monthly publications of the U. S. Dept. Com. Bur. of Labor Statistics.

unharvested tonnage of Tokays are not available, but estimates of shippers and growers place the unharvested tonnage of Tokays at: 1922, 25,000 tons; 1925, 15,000 tons; 1926, 1,000 tons; 1927, 10,000 tons; 1928, 12,000 tons; and 1930, 20,000 tons. For all table grapes the official esti-

TABLE 3

Interstate Shipments and Prices for Tokay Grapes by Weeks, 1929–1932

Date of shipments, week ending	Interstate shipments of Tokay grapes, in carloads	Two-week moving average of shipments, in carloads	Weighted average price in dollars per package at 11 markets advanced two weeks
	1	*2*	*3*
1929			
Aug. 24	15	66	2.15
31	116	193	1.81
Sept. 7	271	404	1.58
14	538	531	1.41
21	525	560	1.64
28	595	669	1.38
Oct. 5	743	749	1.16
12	755	747	1.20
19	739	654	1.37
26	569	470	1.59
Nov. 2	372	.....	.....
1930			
Aug. 23	38	132	1.89
30	227	302	1.80
Sept. 6	376	526	1.46
13	675	850	1.22
20	1,026	948	1.08
27	870	777	1.33
Oct. 4	685	824	1.56
11	964	824	1.45
18	685	904	0.90
25	1,134	975	0.70
Nov. 1	816	.....	.....
1931			
Aug. 15	27	67	2.31
22	108	144	1.79
29	181	258	1.63
Sept. 5	335	373	1.37
12	412	437	1.46
19	462	452	1.72
26	443	468	1.85
Oct. 3	493	504	1.81
10	515	501	1.62
17	488	413	1.51
24	338	228	1.58
31	119	.....	.....
1932			
Sept. 3	128	158	1.52
10	189	308	1.28
17	427	474	1.06
24	521	494	0.97
Oct. 1	467	398	1.23
8	328	399	1.22
15	469	526	1.12
22	584	509	0.99
29	433	314	.....

Sources of data:

Cols. 1 and 3: Cox, W. F. California grapes. Annual summary, season of 1931. U. S. Dept. Agr. Bur. Agr. Econ., California State Dept. Agr. and California Grape Control Board cooperating. p. 88-89, April, 1932 (Mimeo.); and daily reports of the Federal-State Market News Service: Grapes. San Francisco, California.

Col. 2: Computed from col. 1.

Cols. 2 and 3: Calculated to ascertain the relation between shipments and prices. Some shipments reach their destinations in the week following loading in California, while some reach destination the second week following loading.

mates of unharvested tonnage are: 1922, 60,000 tons; 1925, 100,000 tons; 1926, 15,000 tons; 1927, 142,000 tons; 1928, 75,000 tons; and 1930, 74,000 tons.[11]

Seasonal Shipments.—The Tokay grape shipping season usually begins the latter part of August and ends the first part of November with heaviest shipments during September and October (table 3).

During the principal Tokay shipping season this variety dominates the California table-grape movement. Other varieties marketed then are principally Malagas, Thompson Seedless, Cornichons, and Emperors. Emperors, however, do not usually begin to move in heavy volume until the end of the Tokay season.[12]

Annual Prices.—Average annual delivered auction prices for Tokay grapes have varied from $1.11 a package in 1932 to $2.18 in 1921 (table 2). There is a tendency for prices to vary indirectly with the volume of shipments. This relation will be discussed more fully in the section on "Factors Affecting Prices" (pages 16 to 26). It should be noted that the annual prices shown in table 3 are the weighted average of prices received from sales in the eleven principal auction markets. Complete data are lacking on prices received from sales in other markets. However, the data that are available indicate that these prices approximate the prices received on the auction markets, because shippers make a practice of quoting prices to private-sale markets in accordance with the prices prevailing in auction markets. The average prices include the prices for all qualities, consequently some growers with high-quality grapes received a somewhat higher average annual price than the figures shown in table 2, while other growers with low-quality grapes received lower prices.

Seasonal Prices.—Tables 3 and 18 and figure 1 show a tendency for Tokay grape prices to be relatively high early in the season (late August), and then to decline sharply during most of September with some recovery in late September or October. Shear and Gould[13] pointed out a similar tendency for all California table-grape varieties in an analysis of data for the years 1924–1926.

There is an inverse relation between seasonal shipments of Tokay grapes and prices (table 3). This relation is discussed more fully below (pages 22–25).

Price Relations Among Markets.—The major fluctuations in Tokay grape prices in the principal auction markets occur almost simulta-

[11] Shear, S. W. Grapes. Outlook charts and tables. California Agr. Exp. Sta. February, 1932. (Mimeo.)

[12] See: Stillwell, E. W., and W. F. Cox. Marketing California Grapes. U. S. Dept. Agr. Cir. 44:20–25. 1928.

[13] Shear, S. W., and H. F. Gould. Economic status of the grape industry. California Agr. Exp. Sta. Bul. 429:83–85. 1927.

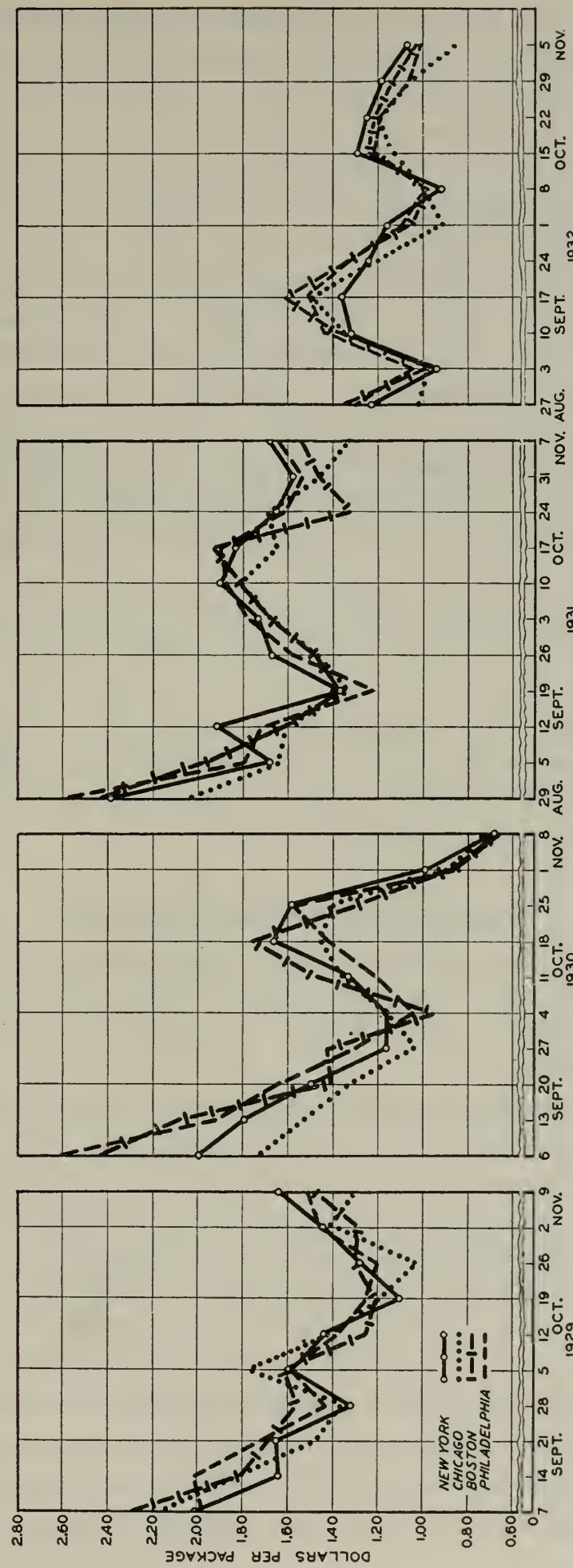

Fig. 1.—The major fluctuations in Tokay grape prices in the principal auction markets occur almost simultaneously. During a given week, however, prices in the several markets often varied considerably. (Data from table 18).

neously (table 18 and figure 1). The reason for this situation is that in most cases carloads in transit can be diverted from one market to another, the exception being when cars have passed a diversion point en route to eastern markets or have reached Boston.

It will be seen, however, from table 18 and figure 1 that prices in the several markets during a given week of the season have often varied considerably. Part of the variation was due to differences in the quality of the grapes. This is indicated by the wide range in prices received for Tokay grapes of the best and poorest quality on the same market at a given time. The New York Daily Fruit Reporter shows price ranges between lowest and highest sales of from $0.60 a package on October 3, 1929, to $1.40 a package on September 6, 1930. It is probable that the best quality on one market on a particular day was not of as good quality as the best quality on another market. Moreover, it is also probable that the poorest quality on a particular market was not of as poor quality as that sold on another market. It is impossible to determine how much of the price variations among markets were caused by the quality factor, since the prices quoted in market reports are not reported by grade.

A factor which is also partly responsible for the variations in prices among markets is the fluctuation in the supply of Tokay grapes on each of the markets at a particular time. The influence of this factor is discussed more fully below (pages 26 to 33).

DISTRIBUTION OF TOKAY GRAPES

An estimate of the utilization of the Tokay grape crop for the year 1930 is shown in table 4. Approximately 60 per cent was shipped to points outside California. The balance was utilized in California or remained unharvested.

Distribution Between Auction and Private-Sale Markets.—Grapes which are sold at auction are classed as auction sales, while those sold in other ways are classed as private sales. Most of the Tokay grapes sold in cities where fruit auctions are established are sold on the auctions. Hence, a tabulation of the sales at auction as compared with total shipments shows the approximate distribution of Tokay grapes in auction markets and in private-sale markets.

Table 5 shows the distribution of sales in auction markets and private-sale markets for the years 1925 to 1932. The sale of interstate shipments at auction varied from 34.4 per cent in 1932 to 49.1 per cent in 1925. It will be noted from table 5 that the percentage of sales at auction has tended to decline since 1925, the only year showing an increase being 1931.

Several factors were responsible for the decline in the percentage of auction sales: (1) a more vigorous development of private-sale markets by some marketing agencies, (2) a curtailment in the financing of Cali-

TABLE 4

UTILIZATION OF THE TOKAY GRAPE CROP, 1930

	Tons	Per cent
Shipped by rail to points outside California	92,040	60
Utilized in California	41,744	27
Unharvested	20,000	13
Total	153,784	100

Sources of data:
Rail shipments outside California from table 2, which totaled 7,670 carloads, multiplied by 12 to convert to a tonnage basis.
Unharvested tonnage estimated as shown on page 6.
Amount utilized in California estimated by subtracting rail shipments and unharvested tonnage from total tonnage produced as shown in table 1.

TABLE 5

DISTRIBUTION OF TOKAY GRAPE SALES BETWEEN AUCTION* AND PRIVATE-SALE MARKETS, 1925–1932

Year	Total interstate shipments, in carloads	Tokay grapes sold at auction		Tokay grapes sold at private sale	
		Carloads	Per cent	Carloads	Per cent
	1	*2*	*3*	*4*	*5*
1925	7,400	3,638	49.1	3,762	50.9
1926	5,872	2,829	48.1	3,043	51.9
1927	6,835	3,159	46.2	3,676	53.8
1928	7,456	3,131	41.9	4,325	58.1
1929	5,613	2,103	37.4	3,510	62.6
1930	7,670	2,818	36.7	4,852	63.3
1931	4,109	1,803	43.8	2,306	56.2
1932	3,982†	1,369†	34.4†	2,613†	65.6†

* The auction markets included in this tabulation are: Baltimore, Boston, Chicago, Cincinnati, Cleveland, Detroit, Minneapolis, New York, Philadelphia, Pittsburgh, and St. Louis.

† Preliminary.

Sources of data:
Ccl. 1: from table 2.
Col. 2: computed from: Cox, W. F. California grapes. Annual summary, season of 1931. U. S. Dept. Agr. Bur. Agr. Econ., California State Dept. Agr., and California Grape Control Board, cooperating. p. 88 and 141. April, 1932. (Mimeo.), by totaling the number of packages sold in auction markets and dividing by 882 to convert to a carload basis.
Col. 3: is the percentage that col. 2 is of col. 1.
Col. 4: is col. 1 minus col. 2.
Col. 5: is the percentage that col. 4 is of col. 1.

fornia shippers on the part of auction companies,[14] and (3) some increase in direct purchases instead of through the auctions on the part of chain-store systems. The increase in the percentage sold at auction in

[14] See page 36 for a further discussion of the effect of the curtailment of financing on the part of auction companies.

1931 is attributed to the fact that there was an unusually small crop in 1931, and it was relatively more profitable to market a large portion of the crop in the centers of large population where auctions are located than in the smaller markets.

The trend towards the increase in the percentage sold in private-sale markets between 1925 and 1932 is of significance to Tokay grape growers because it indicates that markets other than those in which auctions are located have become acquainted with the product.

Distribution Among Auction Markets.—The percentage of the total quantity of Tokay grapes sold at auction that was placed on each of the auction markets has varied considerably from week to week. Table 19, for example, shows that for the week ending August 29, 1931, 16 per cent of the total auction sales were in New York, while for the week ending October 10, 1931, 33 per cent were in that city.

The fluctuations in the percentage of total auction sales placed in each of the four principal auction markets during the 1929, 1930, and 1931 seasons are shown in figure 2. It will be noted that subsequent to the week ending September 19, 1931, the fluctuations were less severe than previously.

This lessening of fluctuations was, to some extent, the result of the planning of the distribution of Tokay grapes on the part of shippers through a clearing house organized by the California Grape Control Board. Early in August, 1931, Tokay grape shippers decided that the establishment of a clearing house was not justifiable because the crop was small. It was assumed that[15] "the crop was so short that (1) shipments would never exceed 60 cars per day; that (2) a large portion of the crop would be placed in private-sales markets at good prices; that (3) there could not possibly be any overcrowding of individual auction markets; that (4) f.o.b. values would stabilize themselves, and that, therefore, (5) the expense of a clearing house or other organization was not justified."

Developments during the 1931 season proved several of the foregoing assumptions to be incorrect, particularly the assumption that the distribution of shipments among auction markets would not need planning. During the week ending September 19, 1931, New York received 32 per cent of the total auction supplies as compared with the average of 28 per cent during the season, Philadelphia received 18 per cent as compared with 15 per cent, Chicago 11 per cent as compared with 14 per cent, Boston 18 per cent as compared with 16 per cent, St. Louis 2 per cent as compared with 4 per cent, and so on. In addition, supplies during

[15] Stillwell, E. W. Tokay crop sells well in 1931. California Grape Control Board. San Francisco, California. April, 1932. (Mimeo.)

Distribution of Sales of Tokay Grapes Among Auction Markets in New York, Chicago, Boston, and Philadelphia, 1929–1932

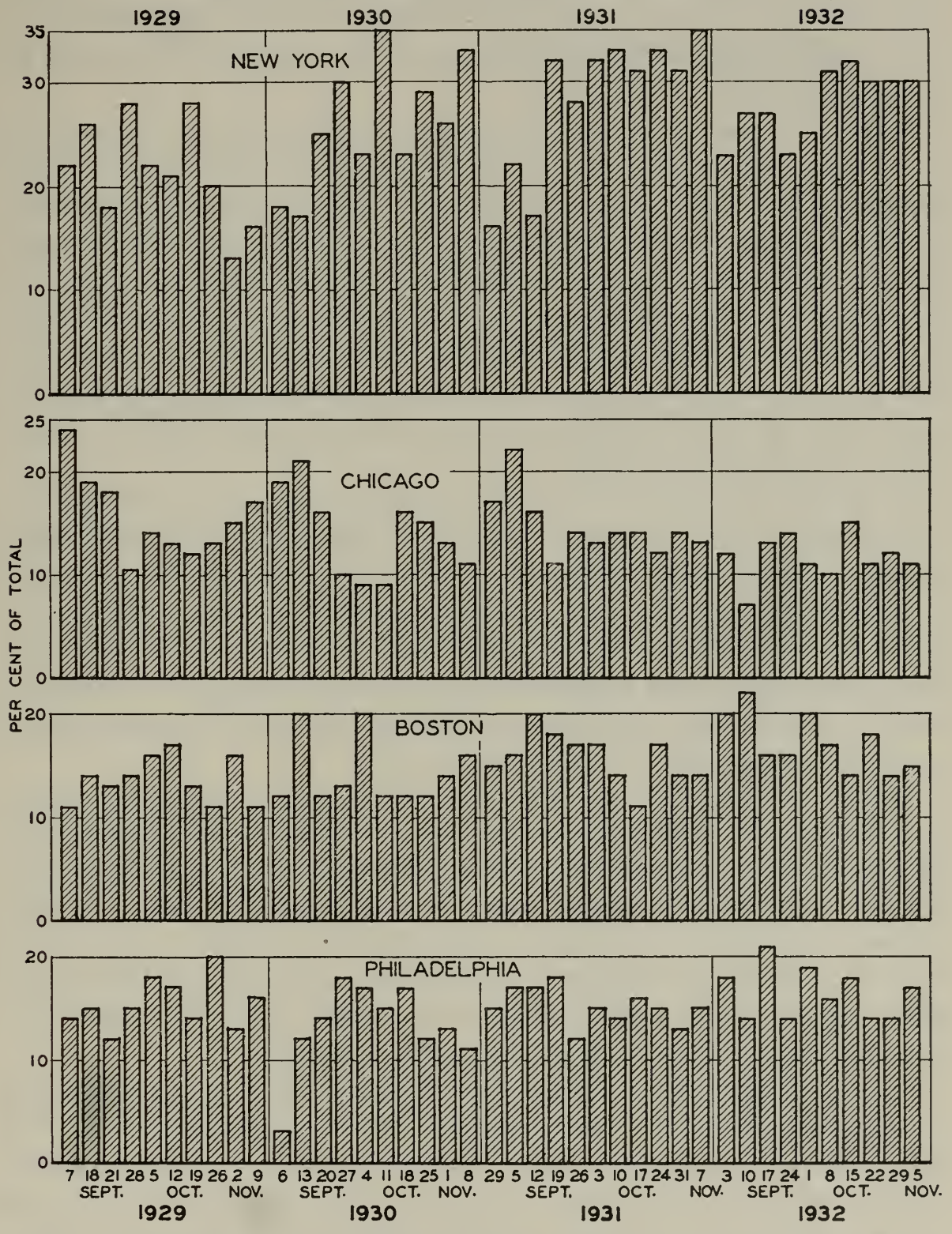

Fig. 2.—The percentage of the total quantity of Tokay grapes sold at auction that was placed on each of the auction markets has varied considerably from week to week. Subsequent to the week ending September 19, 1931, fluctuations were less pronounced than previously because distribution to the important markets was planned by the Tokay Grape Clearing House. (Data from table 19.)

the week ending September 19 were unusually heavy on Monday, September 14, in New York and Philadelphia. There were 27 carloads on track on the former market and 16 carloads on the latter. As a result, prices in New York fell from $1.80 a package on Friday, September 11, to $1.19 a package on Monday, September 14, and from $1.55 to $1.18 in Philadelphia.

Figure 2 also shows that there has been a tendency for the percentage of the total auction sales sold in New York to increase. This tendency is probably due to variations in the degree to which the business recession of 1929–1932 affected the purchasing power of consumers in the several markets. Shippers of other deciduous fruits reported a similar situation, particularly in 1932. This tendency is of significance to grape shippers in planning the distribution of sales, yet it makes the problem more complex because purchasing power in the several markets may change rapidly with a revival of business activity, and this factor must be considered in planning distribution.

Proportion of Supplies Sold in Leading Auctions and Its Relation to Prices.—It was noted on page 8, in the discussion on "Price Relations Among Markets," that the fluctuations in the supply of Tokay grapes on each of the markets were partly responsible for the variations in prices among markets at a particular time. A comparison of figures 1 and 2 shows that when fluctuations in the proportion of total supplies placed in each of the leading auction markets were relatively small, price variations among markets were usually small.

Another relation between distribution and prices, which is not immediately apparent from table 19 and figures 1 and 2, is the tendency for the percentage of total auction sales in a given market in a given week to increase or decrease inversely with the extent to which prices in that market were higher or lower than prices in other markets in the preceding week. Stated in another way, high prices in a given market one week attract shipments to that market the next week, while low prices in a given market one week repel shipments the next week.

The foregoing relation for the New York market is shown in table 6. For example, during the week ending September 14, 1929, prices in New York were $0.17 a package lower than the average of prices in eleven auction markets and the following week the percentage of the total sales in eleven auction markets sold in New York was only 18 per cent. On the other hand, during the week ending September 21, 1929, prices in New York were $0.07 a package higher than the average for all markets and the following week the percentage sold in New York was 28 per cent.

The reason for the foregoing relation is found in the distribution policy of some marketing agencies. Some shippers, in planning the

TABLE 6

New York Prices and Per Cent of Total Auction Sales Sold in New York, 1929–1932

Week ending	New York prices in relation to average prices in dollars in all markets	Per cent of total auction sales sold in New York the following week
1929		
September 7	−0.14	26
14	−0.17	18
21	+0.07	28
28	−0.09	22
October 5	−0.05	21
12	+0.05	28
19	−0.06	20
26	+0.08	28
November 2	+0.07	28
1930		
September 6	+0.10	17
13	−0.01	25
20	+0.03	30
27	−0.06	23
October 4	+0.08	35
11	0.00	23
18	+0.10	29
25	+0.13	26
November 1	+0.09	33
1931		
August 29	+0.08	22
September 5	−0.11	17
12	+0.29	32
19	−0.01	28
26	+0.15	32
October 3	+0.01	33
10	+0.05	31
17	+0.02	32
24	+0.03	31
31	+0.07	35
1932		
September 3	−0.06	27
10	−0.05	27
17	−0.17	23
24	−0.02	25
October 1	+0.10	31
8	−0.05	32
15	+0.06	30
22	+0.03	30
29	+0.06	30

Sources of data: Compiled from tables 18 and 19.

distribution of the volume they have to market at a given time, forward a fairly constant percentage of their total marketings to specific markets. In fact, a few shippers have a definite percentage in mind similar to the percentage figures shown in table 19. This method of planning distribution is the one usually followed by the marketing agencies handling a large volume. On the other hand, some shippers forward most of their marketings to railroad diversion points, such as Chicago or Omaha, and then place their supplies in the several markets according to prevailing prices. Most of their supplies reach the markets in which they will be sold from two to four days after diversions are made, which is usually during the week following a relatively favorable price situation in the markets to which supplies were diverted.

The effect of the latters' distribution policy is twofold. First, as was pointed out on page 10, it tends to cause the major fluctuations in prices throughout the season in the several markets to follow one another closely. On the other hand, it causes, at times, some variation in prices among market areas at a particular time.

In planning the distribution of shipments the tendency for a market to attract shipments the week following relatively high prices is a factor to be considered by the agency planning shipments, particularly if all marketing agencies are not cooperating in the planning program.

FACTORS AFFECTING PRICES

Annual Prices.—The average annual prices for Tokay grapes have been influenced by three principal factors: (1) the volume of interstate shipments of Tokay grapes, (2) the volume of interstate shipments of other California table grapes, and (3) changes in the general price level as measured by the all-commodity index of wholesale prices.[16]

The relation of these three factors to annual Tokay grape prices is shown in figure 3. Section *A* shows the relation between interstate shipments of Tokay grapes and prices; the dots represent the volume of shipments and prices in individual years and the curve represents the average relation for the period 1921–1931. For example, in the year 1931 there were approximately 4,100 carloads of Tokay grapes shipped interstate and the average price was $1.59 a package. The curve in Section *A* indicates, however, that if the average relation that existed throughout the period had existed in 1931 the price would have been $1.86 a package.

The reasons for the fluctuations in individual annual prices above or below the average relation between shipments and prices as represented

[16] During the period covered by this study the general level of wholesale prices was closely correlated with the purchasing power of consumers as measured by the index of factory employment or the index of factory pay rolls.

by the curve in Section *A* were sought. Other California table-grape shipments were thought to be a factor because Mallory, Smith, and Shear[17] in a previous study had found a marked inverse correlation between total volume of California table-grape shipments and average prices for all California table grapes. It was found in the present study

FACTORS AFFECTING ANNUAL TOKAY GRAPE PRICES, 1921–1931

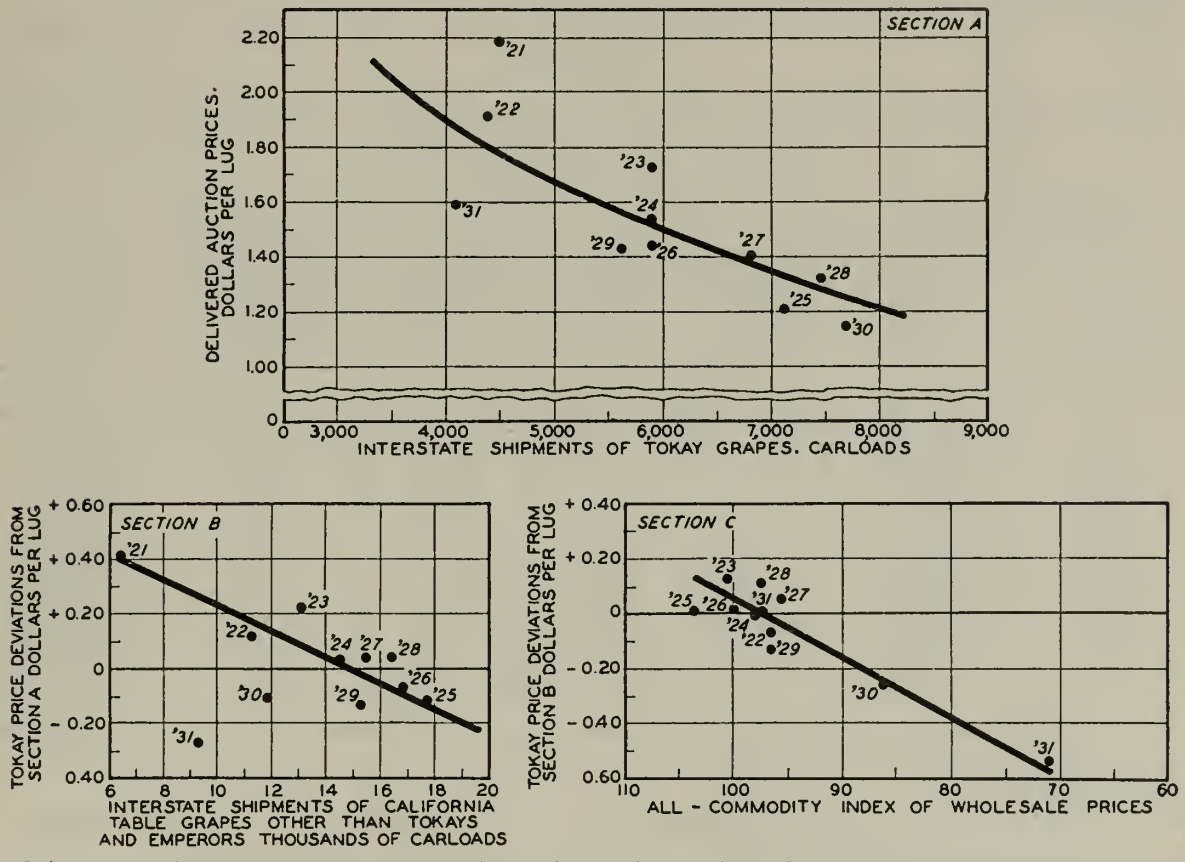

Fig. 3.—The annual average delivered auction prices for Tokay grapes were found to be influenced by the volume of interstate shipments of Tokay grapes (Sec. *A*), the volume of shipments of other California table grapes (Sec. *B*), and changes in the general price level, as measured by the all-commodity index of wholesale prices (Sec. *C*). (Data from table 2; $\bar{P} = 0.7996$.)

that the shipments of California table grapes, other than Tokays and Emperors,[18] were rather consistently related to the deviations from the price-supply curve in Section *A* of figure 3. This relation is shown in Section *B*. The dots represent the price deviations from the curve in Section *A* and the volume of shipments of other table grapes in individual years, and the curve represents the average relation between these two factors.

Another factor which was thought to influence Tokay grape prices was the change in the general price level of all commodities as reflected

[17] Mallory, L. D., S. R. Smith, and S. W. Shear. Factors affecting annual prices of California fresh grapes, 1921–1929. Hilgardia 6:105. 1931.

[18] Emperors were excluded because the bulk of this variety is usually shipped after the Tokay season is over.

by the all-commodity index of wholesale prices. The relation between the deviations from the curve in Section *B* and the all-commodity index of wholesale prices is shown in Section *C*. It will be noted that this factor accounts for the wide deviations in Section *B* in 1930 and 1931. During earlier years, when fluctuations in the all-commodity index of wholesale prices were minor, the relation between the deviations and the index of wholesale prices was not outstanding.

TABLE 7

PROBABLE PRICES FOR TOKAY GRAPES AND PROBABLE TOTAL RETURNS BY SHIPPING VARYING QUANTITIES IN 1932*

Shipments of Tokays		Probable annual delivered auction price	Price after deducting 7 per cent selling charge	Price after deducting $0.65 freight and icing	Price after deducting $0.30 for picking, packing, hauling, and loading	Probable total returns on the vines
Carloads of 882 lugs	Packages of 31 pounds					
1	*2*	*3*	*4*	*5*	*6*	*7*
3,500	3,087,000	$1.54	$1.432	$0.782	$ 0.482	$ 1,567,934
4,000	3,528,000	1.38	1.273	0.623	0.323	1,139,544
4,500	3,969,000	1.26	1.172	0.522	0.222	981,118
5,000	4,410,000	1.15	1.069	0.419	0.119	524,790
5,500	4,851,000	1.06	0.986	0.336	0.036	174,636
6,000	5,292,000	0.98	0.911	0.261	— 0.029	— 153,468
6,500	5,733,000	0.90	0.837	0.187	— 0.113	— 647,829
7,000	6,174,000	$0.83	$0.772	$0.122	$— 0.178	$—1,098,972

* Assuming shipments of California table grapes (other than Tokays and Emperors) at 11,000 carloads and the index of wholesale prices 65.

Sources of data:
Col. 1: assumed.
Col. 2: is col. 1 multiplied by 882.
Col. 3: obtained by interpolation from figure 3.
Col. 4: is col. 3 minus 7 per cent which is the common selling charge.
Col. 5: is col. 4 less $0.65, which is the average freight and icing charge to eastern auctions.
Col. 6: is col. 5 less $0.30 picking, packing, hauling, and loading expenses.
Col. 7: is col. 2 multiplied by col. 6.

In summarizing the relations shown in figure 3 it may be said that: On the average, (1) an increase or decrease of 1,000 carloads in Tokay shipments influenced Tokay prices approximately 16 cents a package; (2) an increase or decrease of 1,000 carloads of other California table grapes influenced Tokay prices between 4 and 5 cents a package, and (3) a 5-point rise or fall in the all-commodity index of wholesale prices influenced Tokay prices nearly 10 cents a package.

Other factors influenced Tokay grape prices, but these occurred irregularly. One factor was quality. Another was the distribution of shipments during the season, while still another factor, as discussed previously, was the distribution of shipments among the principal markets.

The foregoing analysis of the factors affecting annual prices may be of aid in determining whether or not, during a given year, total returns to growers can be increased by limiting the quantity marketed. That is,

it may be useful in deciding whether a shipment-restriction program, such as was undertaken in 1932 (pages 50–56), is advisable. It may also be of aid in determining the extent to which shipment restriction might profitably be employed. An example of the use to which the analysis may be put is shown in table 7.

Column 3 of table 7 shows the annual delivered auction prices for Tokay grapes which might have been expected by shipping varying quantities in 1932. These prices were calculated from figure 3 under the assumption that shipments of California table grapes, other than Tokays and Emperors, would total 11,000 carloads and that the index number of wholesale prices at the time the Tokay grape movement was under way would be approximately 65. For example, with shipments of Tokays at 3,500 carloads, Section *A* shows an average price of $2.05 a package. Section *B* shows $0.19 added to the price of Tokays with shipments of 11,000 carloads of other table grapes. Section *C* shows $0.70 subtracted from the price of Tokays with the all-commodity index of wholesale prices at 65. Thus, $2.05 + $0.19 – $0.70 = $1.54.

Column 6 of table 7 shows the annual prices per package after marketing and harvesting expenses have been deducted from the delivered prices shown in column 3. These prices are net to the grower on the vines. By multiplying column 2 by column 6 an estimate of the total returns to growers on the vines which might have been obtained by shipping varying quantities is obtained.

A comparison of columns 1 and 7 shows that under the conditions assumed (shipments of California table grapes other than Tokays and Emperors at 11,000 carloads and the index number of wholesale prices 65), the total returns to growers would have decreased as the volume of shipments increased. It also shows that the shipment of a quantity in excess of 5,500 carloads would be likely to have resulted in losses. In other words, growers would not receive harvesting and marketing expenses. The last two items in column 7 may appear extreme, for it may be argued that growers would not continue to harvest and market their grapes if the expenses incurred in these operations were not recovered. It is probable that growers would cease harvesting if delivered prices were consistently low; however, delivered prices during the season fluctuate considerably, and since a period of from ten days to two weeks elapses before shipments from California reach eastern markets, growers often ship heavily in anticipation of an upward trend in prices. The result is that at times growers do not recover harvesting and marketing expenses and in some cases not enough to cover marketing expenses.

With the aid of such data as presented in table 7 an estimate may be made of the extent to which shipment restriction might be employed.

One might conclude from table 7 that it would be advisable to restrict shipments to 3,500 carloads, since that is the point where total returns to growers is the highest. However, other factors must be considered, one of which is the percentage of the growers who are willing to participate in a shipment restriction program.

TABLE 8

PROBABLE RETURNS PER ACRE TO GROWERS WITHIN A SHIPMENT-CONTROL PROGRAM WITH 85 PER CENT OF GROWERS PARTICIPATING AND WITH VARYING QUANTITIES SHIPPED, 1932*

Total number of carloads	Number of carloads to be shipped by growers within the program	Per cent of their crop growers within the program would harvest	Number of packages per acre growers within the program would harvest	Probable net price per package on vines	Probable average total returns per acre to growers within the program
1	*2*	*3*	*4*	*5*	*6*
3,500	2,450	41.2	151	$ 0.482	$ 72.78
4,000	2,950	49.6	181	0.323	58.46
4,500	3,450	58.0	212	0.222	47.06
5,000	3,950	66.4	243	0.119	28.80
5,500	4,450	74.9	274	0.036	9.86
6,000	4,950	83.2	305	−0.029	− 8.85
6,500	5,450	91.9	336	−0.113	−37.97
7,000	5,950	100.0	366	$−0.178	$−65.15

* A crop of approximately 7,000 carloads is assumed.

Sources of data:

Col. 1: assumed.

Col. 2: calculated by subtracting 1,050, which is 15 per cent of 7,000, from the items in col. 1.

Col. 3: calculated by dividing each item in col. 2 by the last item in col. 2. Thus 2,450 divided by 5,950 equals 41.2 per cent.

Col. 4: the figure 366 multiplied by col. 3. The figure 366 is the average number of packages shipped per acre in 1927 by Tokay grape growers submitting records for cost analysis. See: Tokay cost of production summary, San Joaquin County, California. California Agr. Ext. Ser. and Orchard and Vineyard Dept. of the San Joaquin County Farm Bureau, cooperating. p. 3. 1928. (Mimeo.)

Col. 5: from col. 6 of table 6.

Col. 6: is col. 4 multiplied by col. 5.

Table 8 shows a calculation of the returns per acre which growers within a shipment-restriction program might have expected by shipping varying quantities under the conditions assumed in table 7, with 85 per cent of the growers within the program. Here it is assumed that the total crop is 7,000 carloads. Column 2 shows the number of carloads to be shipped by growers within the program as the total number of carloads shown in column 1 varies. Column 3 is the percentage of their crop which growers within the program would ship. Column 4 is the total number of packages which growers within the program would ship. These data were obtained by multiplying column 3 by the figure 366 which is an estimate of the average yield per acre. Column 5 is the estimate of net prices to growers, taken from table 7, which would be obtained by shipping varying quantities as shown in column 1. Column 6

(obtained by multiplying column 4 by column 5) is the total returns per acre which growers within the shipment program might expect.

Table 9 shows the returns per acre which growers within a shipment-restriction program might expect with varying percentages of growers within the program. This table shows that the greater the percentage of growers within the program the higher the total returns per acre those within the program might expect. The reason for this situation is that the growers within the program would ship a larger percentage of their

TABLE 9

PROBABLE RETURNS PER ACRE BY SHIPPING VARYING QUANTITIES OF TOKAY GRAPES, IN 1932*

Number of carloads	Probable returns per acre to growers within shipment-control program with varying percentages of growers within the program								
	60 per cent	65 per cent	70 per cent	75 per cent	80 per cent	85 per cent	90 per cent	95 per cent	100 per cent
3,500	$29.40	$34.22	$50.13	$58.80	$66.03	$72.78	$78.57	$83.38	$88.21
4,000	33.92	36.50	45.86	50.71	54.91	58.46	61.69	64.92	67.51
4,500	32.41	34.63	39.74	42.40	44.84	47.06	49.06	50.62	52.17
5,000	22.73	23.56	25.70	27.01	27.97	28.80	29.75	30.46	31.06
5,500	8.46	8.64	9.14	9.40	9.65	9.86	10.04	10.19	10.37
6,000	− 8.09	− 8.18	− 8.44	− 8.58	− 8.70	− 8.85	− 8.93	− 9.02	− 9.11
6,500	−36.39	−36.61	−37.06	−37.40	−37.63	−37.97	−38.08	−38.19	−38.42
7,000	−65.15	−65.15	−65.15	−65.15	−65.15	−65.15	−65.15	−65.15	−65.15

* Assumes a crop of 7,000 carloads. Also assumes a yield of 366 packages per acre.
Source of data: Calculated from figure 3 by methods illustrated in table 8.

crop with an increasing percentage of growers within the program. This table also shows that with a small percentage of growers within the program, shipment restriction would not be carried to as great an extent to obtain highest returns to growers within the program as with a large percentage of growers within the program. For example, with only 60 per cent in the program the highest return per acre would be obtained by shipping between 4,000 and 4,500 carloads, while with 70 per cent or more the highest returns would be obtained by shipping 3,500 carloads.

Another factor to consider in deciding to what extent shipment-restriction programs might be conducted is the probable effect on future plantings. If restriction were practiced to such an extent that all growers would increase plantings, the ultimate effect of the restriction program would be to destroy its profitableness. The reason for this situation is that when the new plantings come into bearing production would increase; then if shipment restriction were practiced the percentage of the total tonnage to be shipped (other factors remaining constant) would decrease. In such a case, the returns from the volume marketed,

even though above marketing and harvesting expenses, would be too small to compensate growers for cultural expenses on their entire production.

The determination of the point to which restriction programs with Tokay grapes might be carried without stimulating new plantings is beyond the scope of this study. It would involve an analysis of the degree to which the acreage and production of Tokay grapes has in the past responded to prices. Several studies of this kind have been made for other crops in designated areas,[19] which show that with adequate data a fairly accurate estimate can be made of the extent to which production will increase or decrease in response to high or low prices. The data necessary for such a study with Tokay grapes are not available. However, the judgment of growers and shippers who have been engaged in the industry for a considerable period can be considered in determining the point to which shipments may be restricted without encouraging plantings.

Still another factor to be considered is the effect that a shipment-restriction program is likely to have on the cultural programs of growers. Restriction programs might induce them to cultivate[20] more intensively, which would result in a greater tonnage per acre. This factor must also be considered in applying restriction programs.

Weekly Prices in All Markets.—The factors affecting weekly prices for Tokay grapes were found to be (1) the volume of interstate shipments of Tokay grapes and (2) the prevailing prices of other California table grapes. See figure 4.

Section *A* of figure 4 shows the relation between the volume of shipments and the weighted average of prices prevailing in eleven auction markets. The volume of shipments is a two-week moving average of shipments and the prices are those which prevailed two weeks following the first week considered in averaging the shipments (table 3). For example, the average of the shipments during the weeks ending August 15 and August 22, 1931, are related to the prices prevailing during the week ending August 29, 1931. A closer relation between shipments and prices was found by averaging two weeks' shipments than by using the shipments of a single week as the volume factor. The probable reason is that some shipments reach their destinations in the week following loading while others do not arrive at their destinations until the second week. Furthermore, some shipments may be held on track at destination until the week following their arrival. The average of two weeks' shipments

[19] Bean, L. H. The farmers' response to price. Jour. Farm Econ. 12:3, 368–385. 1929.

[20] The word "cultivate" here implies the application of fertilizer, pruning, spraying, and other production practices.

Factors Affecting Weekly Tokay Grape Prices in Eleven Auction Markets, 1929–1931

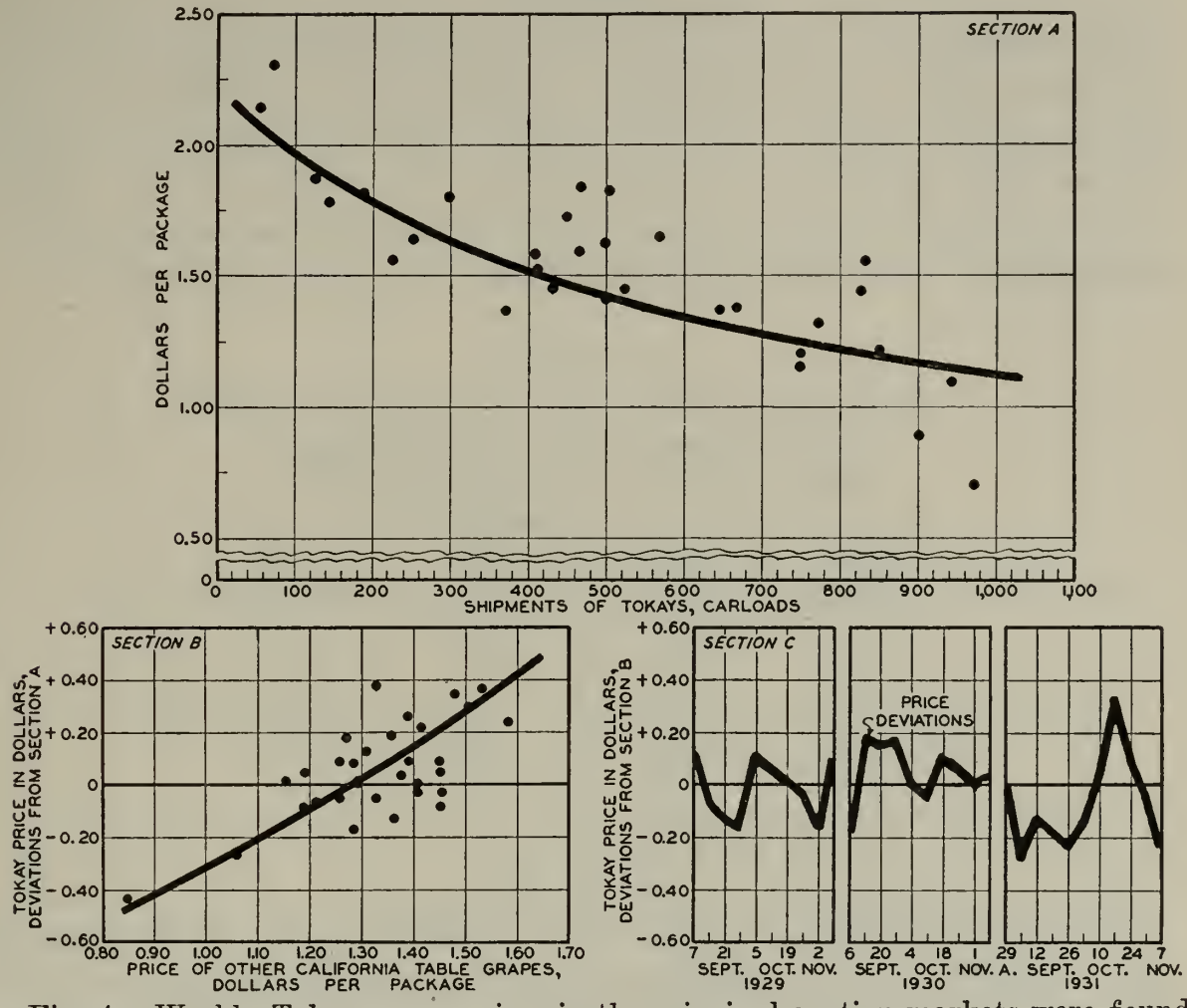

Fig. 4.—Weekly Tokay grape prices in the principal auction markets were found to be influenced by the volume of shipments of Tokay grapes (Sec. *A*), and the prevailing prices of other California table grapes (Sec. *B*). The fluctuations not accounted for by these two factors (Sec. *C*) were probably due in part to variations in quality, and the manner in which supplies were distributed among the various markets. (Data from tables 3 and 20; $\bar{P} = 0.897$.)

tends to compensate the lack of accurate data on the date of arrival and sale of all shipments.

The fluctuations in the individual weekly prices, as shown by the dots in Section *A*, in relation to the average as shown by the curve in Section *A*, were found to be influenced by the prevailing prices of other California table grapes.[21]

[21] In Section *B* the deviations from the curve in Section *A* are shown in relation to this factor. In the course of this analysis an inverse relation was found between the volume of shipments of other California table grapes and the deviations from the curve in Section *A*. However, this relation was not as marked as the direct relation between other table-grape prices and these deviations.

A similar situation was found in an analysis of weekly artichoke prices. The prevailing prices of lettuce explained deviations from an artichoke supply-price curve better than the volume of lettuce. See: Stokdyk, E. A. Marketing globe artichokes. California Agr. Exp. Sta. Bul. 524:29–30. 1932.

There is an advantage in the employment of the factor of the prevailing prices of other table grapes as a partial explanation of the deviations from the price-supply curve over the factor of the volume of shipments of other table grapes when the question of anticipating the weekly prices of Tokays arises. This advantage, as pointed out by Wellman[22] in the case of apricots, is that the prices not only reflect changes in the volume of other table grapes, but also take into account changes in the supply of other products which compete with grapes, such as changes in the buying power of consumers, and changes in the general price level.

TABLE 10

WEEKLY SHIPMENTS OF TOKAY GRAPES TO OBTAIN $1.30 A PACKAGE UNDER VARYING PRICES OF OTHER CALIFORNIA TABLE GRAPES IN 1932

Prices of other table grapes	Weekly shipments of Tokays	Prices of other table grapes	Weekly shipments of Tokays
$0.90	220	$1.15	440
0.95	255	1.20	500
1.00	300	1.25	580
1.05	330	1.30	680
$1.10	380	$1.35	800

Source of data: Calculated from figure 4.

That there are factors affecting the weekly prices of Tokay grapes other than the volume of shipments and the prevailing prices of other table grapes is indicated by Section *C* of figure 4. Here the deviations from Section *B* are plotted chronologically. One factor known to influence these deviations markedly is quality. The degree of acidity, the sugar content, the color, the formation of the bunches, and the degree of freedom from blemishes all influence quality. Unfortunately, an adequate measure of these qualities as price-making forces is not available.

Another factor influencing the weighted average of prices in the eleven auction markets is the distribution of shipments among the several markets. This factor will be discussed more fully below (pages 26–33). The principle may be stated here: with a given volume of shipments, other factors being constant, the highest weighted average price is obtained by placing supplies in the various market areas in such a manner that the same price is obtained in each market area. The data available on the distribution of supplies in the various market areas indicate that during some weeks supplies were distributed fairly well in accordance with this principle while in other weeks they were not.

[22] Wellman, H. R. Factors that affected the annual prices of canned apricots, 1923–24 to 1930–31. California Agr. Ext. Ser. p. 4. June, 1931. (Mimeo.)

The foregoing analysis of the factors affecting weekly prices may be of aid in determining the point to which weekly shipments may be restricted under a shipment-restriction program. For example, if under conditions estimated to prevail in 1932, it had been decided to restrict annual shipments to between 4,000 to 4,500 carloads to obtain an average annual delivered price of approximately $1.30 a package (table 10), an

FACTORS AFFECTING WEEKLY TOKAY GRAPE PRICES IN NEW YORK, 1929–1931

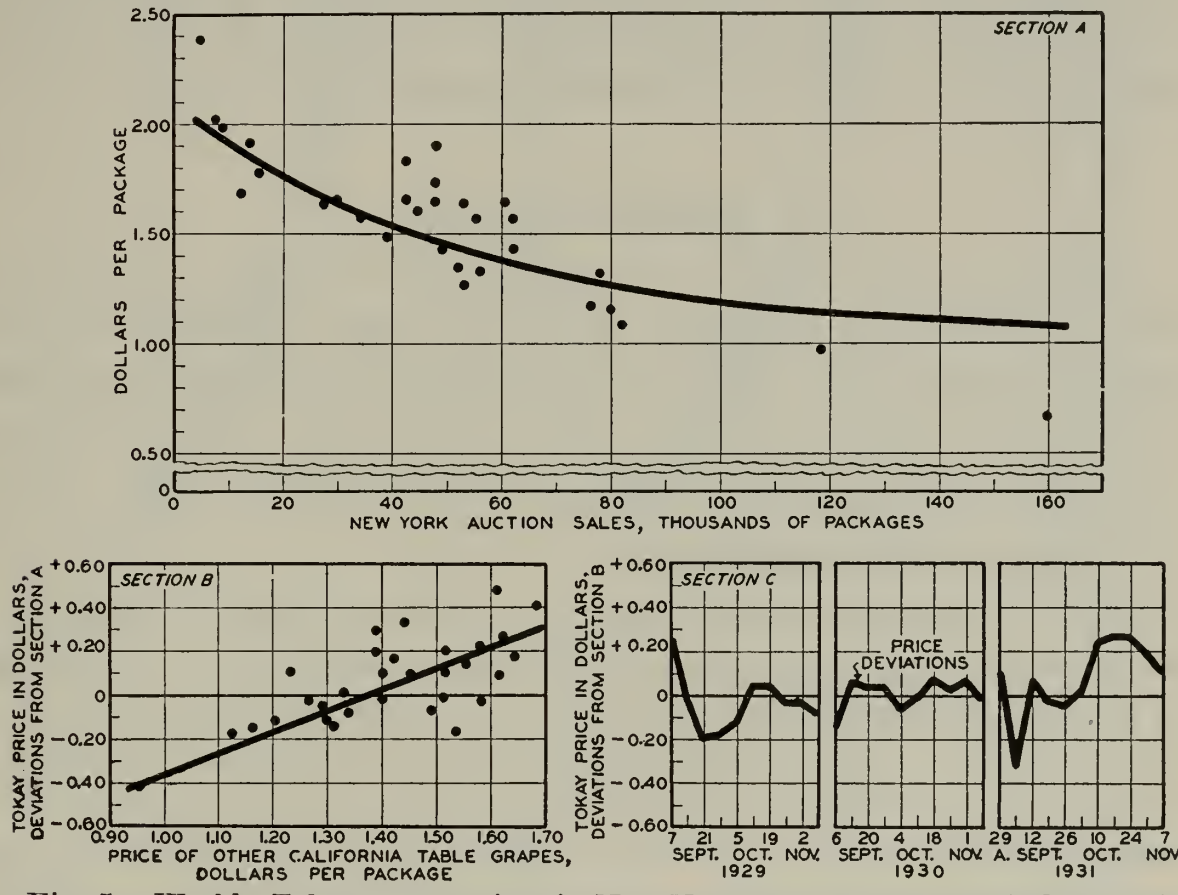

Fig. 5.—Weekly Tokay grape prices in New York were found to be influenced by the volume of sales (Sec. *A*) and the prevailing prices of other California table grapes (Sec. *B*). The fluctuations not accounted for by these two factors (Sec. *C*) were probably due to variations in quality. (Data from table 18; $\bar{P} = 0.901$.)

estimate might be made, from figure 4, of the weekly volume to be shipped to obtain a weekly average price of $1.30 a package.[23] Table 10 illustrates such an estimate.

Weekly Prices in New York.—Available data indicate that the same factors have influenced weekly prices in New York as in all market areas. Figure 5 shows these to be primarily (1) the volume of sales, and (2) the prevailing prices of other California table grapes.

In using figure 5 to anticipate prices in New York, the prevailing prices of California table grapes, other than Tokays, in the week pre-

[23] The prevailing prices of other table grapes as a factor influencing Tokay grape prices can be ascertained from current issues of the Federal-State Market News Service.

vious to the one for which a forecast is to be made can be employed because there was nearly as close correlation between the deviations from Section *A* and the prices of other table grapes one week earlier as between these deviations and prices during the same week.

Weekly Prices in Other Important Markets.—The weekly prices in other markets, namely Baltimore, Boston, Chicago, Cincinnati, Cleveland, Detroit, Minneapolis, Philadelphia, Pittsburgh, and St. Louis, like New York, were found to be influenced by the volume of sales and the prices of other California table grapes. The supply-price curves for these markets are shown in connection with the following section.

MARKET CAPACITY

Weekly Capacity of Eleven Auction Markets.—Figure 6 shows the weekly supply-price curves for each of the eleven principal auction markets for the 1929, 1930, and 1931 seasons as found in the analysis of the factors affecting prices (pages 22–25). These curves represent the prices at which varying quantities of Tokay grapes might be expected to sell, other factors remaining constant. For convenience, they are called market-capacity curves.

It will be noted from figure 6 that the position and slope of the curves for the several markets vary somewhat. The reasons for the variations in position and slope may be found in such factors as differences in the total population in the trade areas served by each of the markets, differences in the food-consuming habits of the population, differences in consumers' preferences for varieties of grapes,[24] and differences in the purchasing power of consumers. An analysis of these factors would be useful in determining where additional sales effort might be spent but would entail the collection and interpretation of data beyond the scope of this study.

The Planning of Distribution in Relation to Market Capacity.—The use to which the market-capacity curves might be put in planning the distribution of sales among the principal market areas is illustrated in tables 11 and 12 and figure 7. Here an attempt is made to ascertain how to plan the distribution of supplies among the several markets so as to obtain the highest weighted average price and the greatest total value.

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[24] Rasmussen found that in Philadelphia the Tokay was the most popular of all California table-grape varieties, while in Chicago the Thompson Seedless was the most popular, with the Tokay second. This may account for the fact, as shown by the market-capacity curves, that a given volume of Tokays sold for a higher price in Philadelphia than in Chicago. See: Rasmussen, M. P. The marketing of eastern grapes by retailers, Chicago, Illinois, 1928–29. Cornell University. Farm Econ. 75: 1735. 1932.

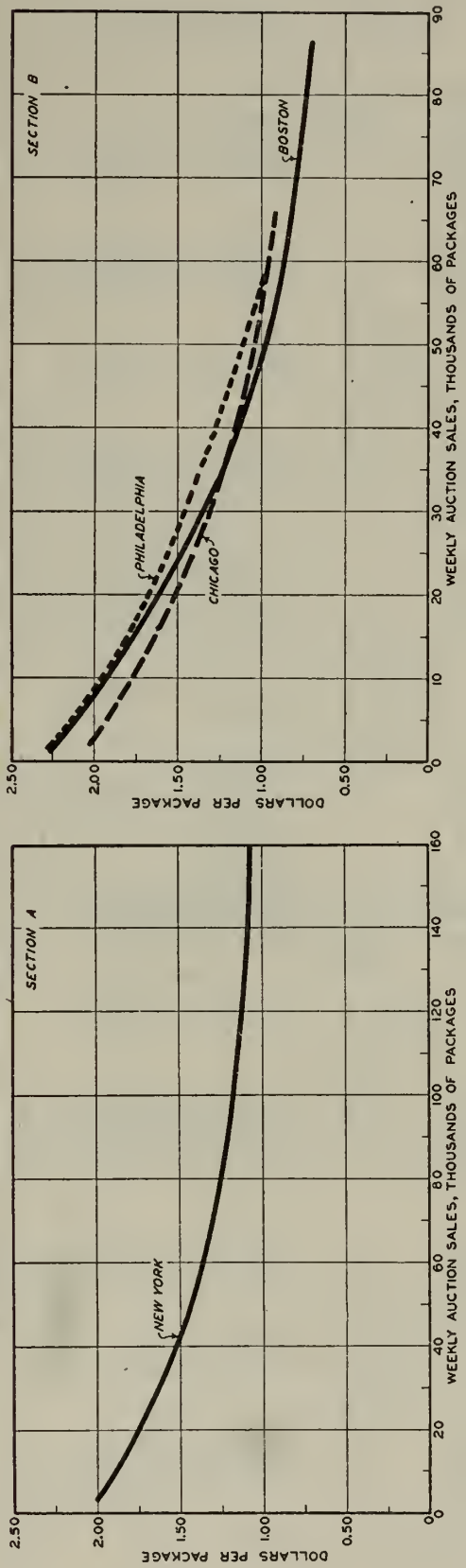

Fig. 6.—The volume of Tokay grapes sold in each of the principal auction markets had an important influence on prices. This figure shows the average relation between the quantity sold and prices during the 1929–1931 seasons. A knowledge of such relations may aid in planning the distribution of supplies to obtain the highest total returns. (Data from table 18.)

TABLE 11

PRICE PER PACKAGE AND TOTAL RETURNS WHICH WOULD BE RECEIVED BY PLACING VARYING QUANTITIES OF TOKAYS ON THE ELEVEN AUCTION MARKETS, WITH A TOTAL VOLUME OF 300,000 TO BE SOLD IN THESE MARKETS

Market area	Number of packages placed on the market	Price per package, in dollars	Total value, in dollars	Number of packages placed on the market	Price per package, in dollars	Total value, in dollars	Number of packages placed on the market	Price per package, in dollars	Total value, in dollars	Number of packages placed on the market	Price per package, in dollars	Total value, in dollars	Number of packages placed on the market	Price per package, in dollars	Total value, in dollars
	Distribution No. 1			Distribution No. 2			Distribution No. 3			Distribution No. 4			Distribution No. 5		
Baltimore	14,000	1.21	16,940	12,000	1.32	15,840	15,000	1.15	17,250	15,600	1.13	17,628	12,300	1.30	15,990
Boston	36,000	1.21	43,560	42,000	1.11	46,620	39,000	1.16	45,240	42,300	1.10	46,530	45,000	1.06	47,700
Chicago	36,000	1.21	43,560	45,000	1.10	49,500	41,700	1.16	48,372	38,400	1.18	45,312	42,000	1.13	47,460
Cincinnati	11,300	1.21	13,673	12,000	1.18	14,160	12,900	1.13	14,577	10,500	1.25	13,125	8,400	1.38	11,592
Cleveland	14,100	1.21	17,061	12,000	1.30	15,600	15,300	1.26	19,278	12,600	1.27	16,002	10,200	1.48	15,096
Detroit	12,000	1.21	14,520	12,000	1.20	14,400	12,600	1.17	14,742	10,200	1.28	13,056	7,950	1.40	11,130
Minneapolis	10,000	1.21	12,100	12,000	1.05	12,600	12,000	1.05	12,600	10,200	1.19	12,138	8,700	1.31	11,397
New York	94,000	1.21	113,740	78,000	1.28	99,840	75,000	1.28	96,000	85,500	1.24	106,020	91,500	1.22	111,630
Philadelphia	44,500	1.21	53,845	45,000	1.20	54,000	46,500	1.18	54,870	49,500	1.13	55,935	54,000	1.07	57,780
Pittsburgh	14,100	1.21	17,061	15,000	1.19	17,850	15,000	1.26	18,900	12,600	1.27	16,002	10,200	1.48	15,096
St. Louis	14,000	1.21	16,940	15,000	1.16	17,400	15,000	1.16	17,400	12,600	1.25	15,750	9,750	1.22	11,895
Total	300,000		363,000	300,000		357,810	300,000		359,229	300,000		357,498	300,000		356,766
Weighted average price		1.210			1.192			1.197			1.191			1.189	
	Distribution No. 6			Distribution No. 7			Distribution No. 8			Distribution No. 9			Distribution No. 10		
Baltimore	15,000	1.15	17,250	15,450	1.14	17,613	13,500	1.22	16,470	7,500	1.60	12,000	12,000	1.32	15,840
Boston	41,250	1.12	46,200	39,150	1.15	45,022	42,000	1.11	46,620	50,000	1.00	50,000	50,500	0.98	49,490
Chicago	38,250	1.18	45,135	41,250	1.15	47,438	42,000	1.13	47,460	45,000	1.10	49,500	52,500	1.02	53,550
Cincinnati	10,500	1.25	13,125	12,000	1.18	14,160	9,000	1.34	12,060	7,500	1.42	10,650	12,000	1.18	14,160
Cleveland	12,600	1.27	16,002	15,000	1.19	17,850	11,400	1.20	13,680	7,500	1.51	11,325	12,000	1.30	15,600
Detroit	10,200	1.28	13,056	12,000	1.20	14,400	9,000	1.33	11,970	7,500	1.41	10,575	12,000	1.20	14,400
Minneapolis	10,200	1.19	12,138	12,000	1.05	12,600	9,600	1.24	11,904	8,500	1.33	11,305	9,500	1.25	11,875
New York	87,150	1.23	107,194	75,000	1.28	96,000	91,500	1.22	111,630	105,000	1.16	121,800	60,000	1.36	81,600
Philadelphia	48,750	1.14	55,575	48,150	1.15	55,372	49,500	1.13	55,935	45,000	1.20	54,000	52,500	1.11	58,275
Pittsburgh	12,600	1.27	16,002	15,000	1.25	18,750	11,400	1.20	13,680	7,500	1.51	11,325	12,000	1.30	15,600
St. Louis	13,500	1.22	16,470	15,000	1.19	17,850	11,100	1.31	14,541	9,000	1.41	12,690	15,000	1 16	17,400
Total	300,000		358,147	300,000		357,055	300,000		355,950	300,000		355,170	300,000		347,790
Weighted average price		1.193			1.190			1.186			1.183			1.160	

Source of data: Calculated from figure 6.

Table 11 shows 10 hypothetical distributions of 300,000 packages among 11 auction markets and the probable prices that would be obtained with the purchasing power of consumers and other factors the same as those which existed in the period 1929–1931. It will be noted

DISTRIBUTION OF TOKAY AUCTION SALES TO OBTAIN HIGHEST RETURNS, 1929–1931

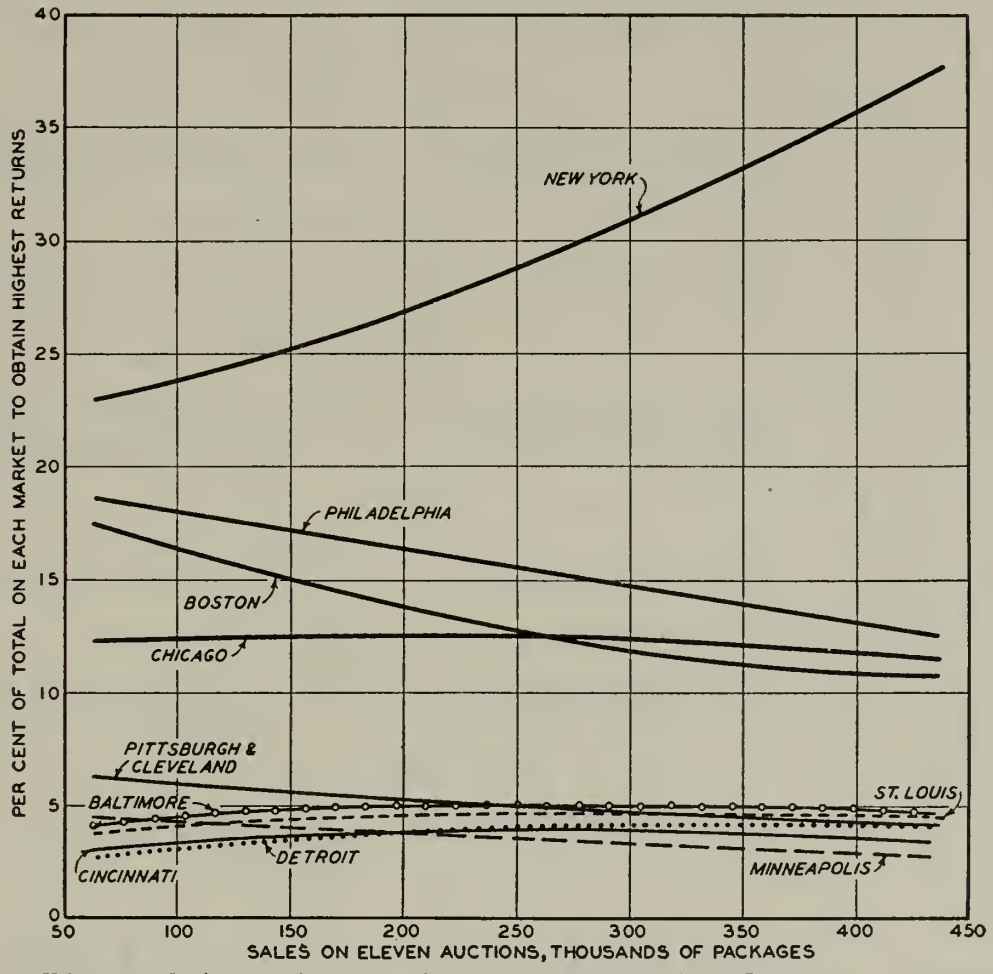

Fig. 7.—With an increase in the volume marketed, the percentage distribution to each market remains fairly constant for some market areas, decreases for others, while for New York the percentage increases under conditions prevailing in 1929–1931. (Data from table 12.)

that distribution No. 1, where the same price is obtained in all markets, results in the highest average price and the greatest total value.[25] This distribution may be termed "putting equal pressure on all market areas." Whenever distribution is such that a higher price is obtained in one market than another the weighted average price and the total value are less.

Table 12 and figure 7 show the distribution of varying volumes to obtain the highest average price. It will be noted that with an increase

[25] A similar situation was found in the distribution of avocados among its principal market areas. See: Stokdyk, E. A. Sales methods and policies of the Calavo Growers of California. California Agr. Exp. Sta. Bul. 539:22–29. 1932.

TABLE 12

AMOUNT AND PERCENTAGE DISTRIBUTION OF WEEKLY VOLUME OF TOKAY GRAPE SALES IN ELEVEN AUCTIONS TO OBTAIN THE HIGHEST AVERAGE PRICE, 1929–1931

Total number of packages to be marketed per week	Highest average price obtainable in 1929-1931		Distribution to obtain highest average prices in									
			Baltimore		Boston		Chicago		Cincinnati		Cleveland	
			Number of packages	Per cent of total	Number of packages	Per cent of total	Number of packages	Per cent of total	Number of packages	Per cent of total	Number of packages	Per cent of total
100,000	$1.72		6,000	6.0	16,500	16.5	12,500	12.5	3,300	3.3	4,300	4.3
150,000	1.55		8,200	5.5	22,500	15.0	19,000	12.7	5,600	3.7	6,800	4.5
200,000	1.42		10,300	5.2	27,500	13.7	25,500	12.8	7,600	3.8	9,400	4.7
250,000	1.30		12,500	5.0	32,500	13.0	31,750	12.7	9,500	3.8	12,000	4.8
300,000	1.21		14,000	4.7	36,000	12.0	36,000	12.0	11,300	3.8	14,100	4.7
350,000	1.13		15,600	4.5	40,500	11.6	42,500	12.1	13,000	3.7	16,800	4.8
400,000	$1.08		16,900	4.2	44,000	11.0	47,500	11.9	14,300	3.6	18,600	4.6

Total number of packages to be marketed per week	Highest average price obtainable in 1929-1931	Distribution to obtain highest average price in									
		Detroit		Minneapolis		New York		Philadelphia		Pittsburgh		St. Louis	
		Number of packages	Per cent of total	Number of packages	Per cent of total	Number of packages	Per cent of total	Number of packages	Per cent of total	Number of packages	Per cent of total	Number of packages	Per cent of total
100,000	$1.72	2,900	2.9	4,100	4.1	24,000	24.0	18,000	18.0	4,300	4.3	4,100	4.1
150,000	1.55	5,300	3.5	5,800	3.9	38,000	25.3	25,500	17.1	6,800	4.5	6,500	4.3
200,000	1.42	7,400	3.7	7,400	3.7	54,000	27.0	32,500	16.2	9,400	4.7	9,000	4.5
250,000	1.30	9,500	3.8	8,750	3.5	71,500	28.6	38,750	15.5	12,000	4.8	11,250	4.5
300,000	1.21	12,000	4.0	10,000	3.3	94,000	31.3	44,500	14.8	14,100	4.7	14,000	4.7
350,000	1.13	14,000	4.0	10,900	3.1	115,000	32.9	49,000	14.0	16,800	4.8	15,900	4.5
400,000	$1.08	15,800	4.0	11,600	2.9	142,200	35.6	52,500	13.1	18,600	4.6	18,000	4.5

Source of data: Calculated from figure 7.

in volume the percentage to be marketed in each area remains fairly constant for some market areas, decreases for others, while for New York the percentage increases. The probable reason for the variation in the percentage distribution is that the elasticity of demand[26] for Tokay grapes in the several market areas varies. This is indicated by the differences in slope of the supply-price curves in figure 6. If the elasticity of demand were approximately the same in all market areas the percentage distribution with varying volumes would remain constant.

It was pointed out in pages 12 to 16 that there were fluctuations in the percentage of total weekly auction sales sold in each of the auction markets. The foregoing analysis of the market capacity of each auction market shows that some fluctuations are to be expected if equal pressure is to be maintained in all markets.

It was also pointed out that there is a tendency for a given market to attract receipts the week following relatively high prices as compared with other markets and to repel receipts the week following relatively low prices. A comparison of tables 18 and 19 and figure 7 will show, however, that this tendency operated, at times, towards destroying an equal pressure on all market areas while at other times it operated towards a more equal pressure. For example, during the week ending October 18, 1930, prices for Tokays in New York were $0.10 a package higher than the average of prices in all markets. During this week the volume of sales in New York was 47,605 packages, or 23 per cent of the total volume of sales in all markets (202,102 packages), whereas according to figure 7 a volume of sales in New York approximating 27 per cent of the sales in all markets, or 54,568 packages, would have been the proper amount for that market. As a result of the higher prices in New York during the week of October 18, 1930, the volume of sales in New York was increased during the following week, and amounted to 29 per cent of the total volume sold in all markets. The proper proportion for New York, according to figure 7, would have been 28 per cent. Hence, at this particular time (the weeks of October 18 and October 25, 1930) the tendency for the New York market to attract receipts the week following high prices tended towards a more equal pressure on all markets. On the other hand, during the week of October 4, 1930, prices in New York were $0.08 a package higher than the average of prices in all markets (see table 18). Sales in New York during that week were 23 per cent (table 19) of total sales as compared with 31 per cent for equal pressure

[26] The term elasticity of demand refers to the degree with which consumers respond to changes in price. Demand is said to be elastic if with a slight reduction in price new customers buy freely or old customers purchase larger quantities, while demand is said to be inelastic if reductions in price do not attract many new customers or induce old customers to purchase more.

CHANGES IN MARKET CAPACITY FOR TOKAY GRAPES
BETWEEN 1929–1931 AND 1932

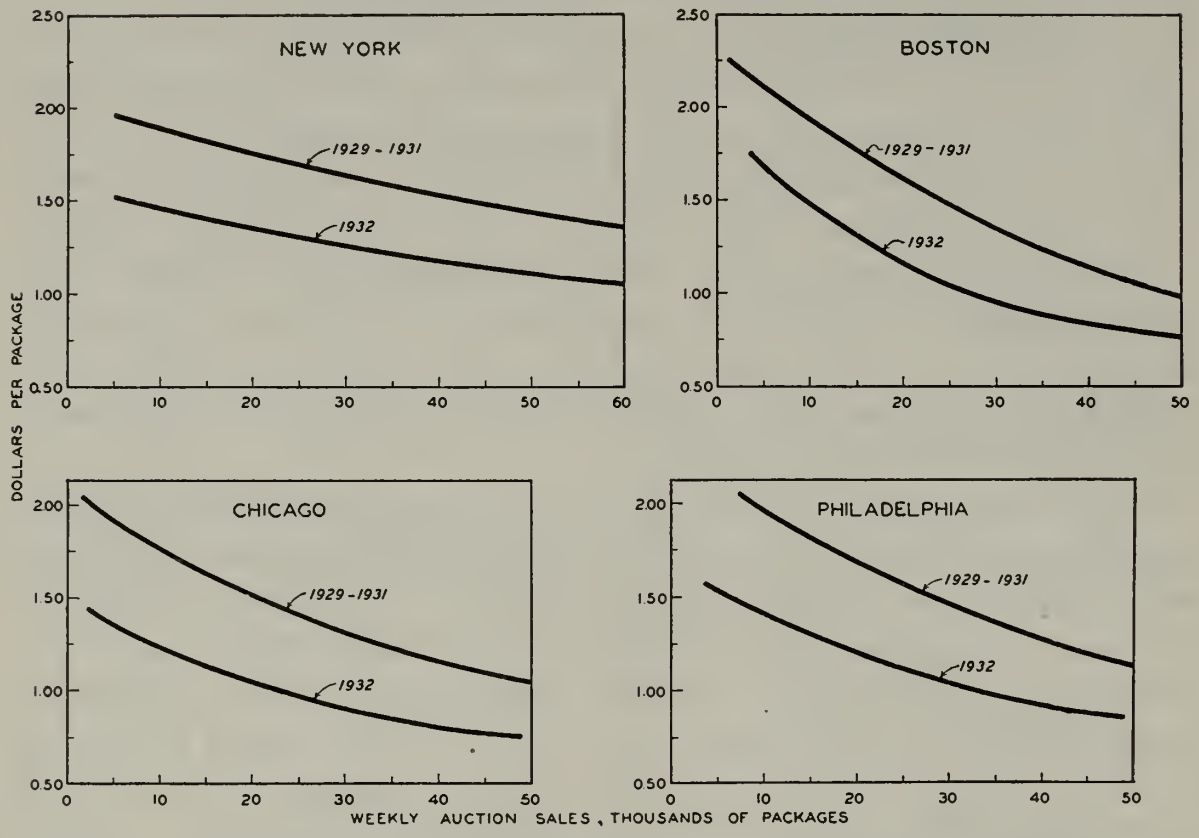

Fig. 8.—The capacity of the four principal auction markets was markedly lower in 1932 than in 1929–1931, primarily because the purchasing power of consumers was lower.

DAILY AUCTION MARKET CAPACITY FOR TOKAY GRAPES IN
NEW YORK, 1929–1931

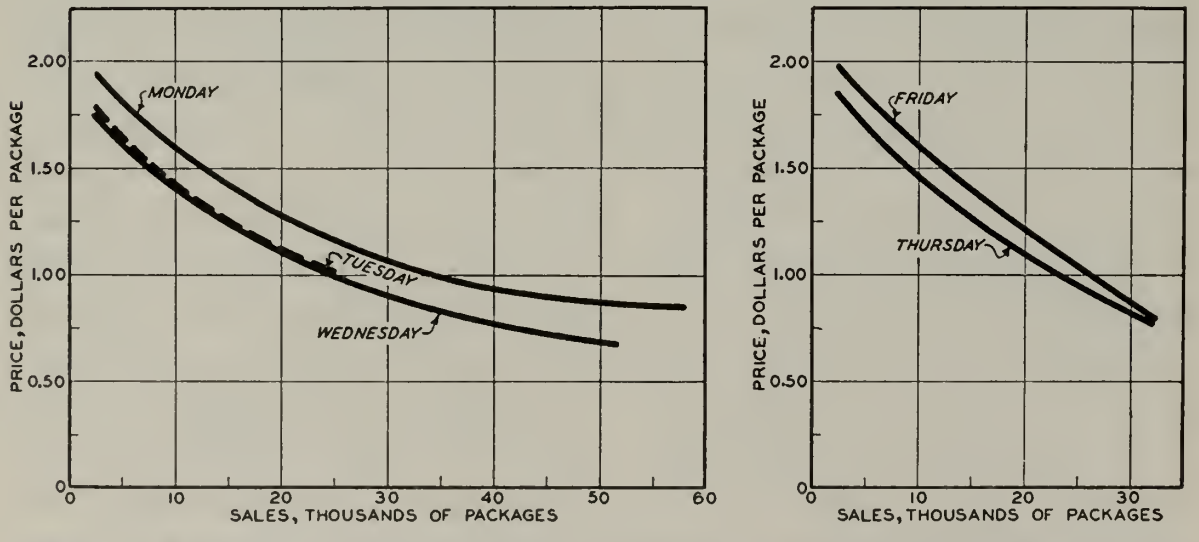

Fig. 9.—Monday and Friday are the days when demand is strongest. For example, a volume of 10,000 packages sold for $1.60 a package on Monday and Friday, while on Tuesday, Wednesday, and Thursday, prices realized from the sale of 10,000 packages were $1.43, $1.40, and $1.45 respectively. (Data compiled from daily issues of the Federal-State Market News Service. Grapes. Fresno, California.)

on all markets. The following week sales in New York were 35 per cent of the total sales in all markets whereas figure 7 indicates that 28 per cent would have been the proper proportion to sell in New York. Thus during this period (the weeks ending October 4 and 11, 1930) the tendency for the New York market to attract receipts the week following high prices tended to destroy an equal pressure on all markets.

Unfortunately, from the standpoint of planning the distribution of sales, the foregoing analysis of market capacity illustrates a principle rather than an exact measure of the future capacity of these cities for Tokay grapes. The position and slope of the price-supply curves may change rapidly, particularly in periods of extreme fluctuations in the general price level and in the purchasing power of consumers. The marked changes which occurred in the market capacity of four cities between the period 1929–1931 and 1932 are shown in figure 8. Such a rapid change points to the necessity of analyzing current information when a distribution program is undertaken. It is probable that an analysis of the market capacity for other products marketed earlier in the season would be of aid in forecasting the capacity of various markets for Tokay grapes during a given season.

Daily Capacity of New York.—The daily market capacity for Tokay grapes in New York is shown in figure 9. Monday and Friday appear to be the days when demand is strongest. For example, a volume of 10,000 packages sold, on the average, for $1.60 a package on Monday and Friday, while on Tuesday, Wednesday, and Thursday, prices realized from the sale of 10,000 packages were $1.43, $1.40, and $1.45 respectively.

The reasons for the stronger demand on Monday and Friday are found in the purchasing habits of jobbers and retailers which in turn reflect the buying habits of consumers. On Monday and Friday some local dealers purchase supplies for two or three days. In addition, on these days purchases are usually made by brokers for dealers outside of metropolitan New York.

A knowledge of the daily market capacity may aid in the planning of sales during the week. If current data indicate that sales on a particular day are likely to be excessive in relation to the daily capacity, while on succeeding days they are likely to be small, part of the supply may be held for a day or two. On the other hand, if indications are that supplies on a particular day are likely to be light, as compared with succeeding days, the holding of supplies can be discouraged.

TRADE CHANNELS

The chart on the cover page pictures the principal trade channels which were found to exist in the marketing of Tokay grapes. There are a number of channels through which a particular carload of grapes might move from producer to consumer. These are the result of attempts to take the shortest possible route to the consumer in specific trade areas, the efforts of certain dealers to offer more marketing services, the trade relations which dealers have established, and the risks which individuals engaged in the marketing process have been willing to assume.

Some markets have a restricted trade area while others serve a large territory. In the smaller markets the trade channels are few, while in the larger markets the trade channels are numerous and varied. The tendency, however, is for products to move by the shortest route economically feasible. Changes constantly occur as a result of this tendency, particularly when one type of dealer attempts to combine the functions performed by two or more types of dealers, as is the case with the chain-store system in undertaking the functions of the wholesaler and jobber.

Some agencies offer more services to growers and shippers than other agencies. For example, a distributor through his agents or brokers can maintain a wider contact with markets than an individual shipper can afford; the telegraphic expense alone restricts individual shippers to a few markets. Furthermore, the distributor usually offers the shipper the use of an established brand.

The trade relations which distributors have established may often determine the channels through which the product may move. Some of the marketing agencies have their own representatives or subsidiaries in eastern markets; others have developed connections with certain dealers who have rendered honest and efficient service. Once such connections are established, marketing agencies hesitate to assume the risks that are likely to be incurred by utilizing a trade channel which may appear to be a shorter route to the consumer. Furthermore, dealers who attempt to combine the services of one or more agencies usually ask for a discount equivalent to the commission or margin received by one or more of the dealers whose services they attempt to perform.

The risks, which various individuals all the way from producer to consumer are willing to assume, have had a marked influence on the trade channels which have become established. Some growers and shippers prefer to sell for cash rather than to assume the risk of a decline in price between the time a shipment is loaded and the time it reaches a distant market. On the other hand, many growers and shippers feel that

the risks assumed are, over a period of time, compensated by higher prices. In terminal markets, some agencies prefer to purchase their supplies while others prefer to handle them on consignment. Where the consignment arrangement prevails a third party often completes the transaction between buyer and seller.

Channels for Auction Sales.—Two series of trade channels are prominent in the marketing of Tokay grapes, the one for auction sales, and the other for private sales. The auction-sales series is: producer → shipper → distributor → broker or agent → fruit auction → retail outlets → consumer. The producer grades and packs the grapes and delivers them to the shipper's loading shed. The shipper makes up carloads from the deliveries of growers, arranges with a distributor[27] for the sale of the products, and handles the documents incidental to the transactions between himself and the grower. The distributor determines the market to which individual carloads shall be shipped. His agent arranges for the sale on the fruit auctions, makes collections from the auction companies and forwards them to the distributor, who in turn remits to the shipper. Buyers representing various classes of retail outlets purchase their supplies on the fruit auction.

In the preceding series of trade channels there are numerous variations; for example, some growers are grower-shippers in that they load their own products and make sales arrangements directly with distributors. Again, in terminal markets, some retailers purchase their supplies through a buying broker or from a jobber.

Channels for Private Sales.—The series of trade channels extensively employed in private-sales markets is: producer → shipper → distributor → broker → wholesaler → jobber → retail outlets → consumer. Frequently, however, the distributor is not utilized in this series of channels; some shippers sell to wholesalers or to jobbers through brokers. The brokers with whom some shippers deal are buying brokers instead of selling brokers. These brokers are frequently called cash buyers because they buy for their principals for cash at loading point.

The services performed by the various agencies in this series of channels are much the same as those performed by the agencies in the auction series described above. The most important difference is that in this series, wholesalers and jobbers instead of the fruit auctions perform the function of breaking up carloads into small lots for retailers.

It will be noted from the cover chart that some of the lines connecting the various marketing agencies are heavy lines while others are broken lines. The former represent the physical movement of the product while the latter represent transactions incidental to the physical movement.

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[27] Arrangements are usually made in advance of the marketing season.

Another agency, which may be looked upon as a part of a series of trade channels, has played a part in the marketing of Tokay grapes, namely, the clearing-house association. Its function is discussed elsewhere (pages 26 to 33 and 45 to 49).

Adequacy of Trade Channels.—The trade channels found in the marketing of Tokay grapes appear adequate. The existing agencies perform numerous and varied services. They afford opportunity for growers and shippers to market their products in the way which suits their particular circumstances and according to the marketing risks each is willing to assume. Furthermore, in each market area agencies have developed to meet the needs of the particular area. At the same time, an agency exists which has as its primary function the planning of the distribution of supplies in the principal market areas. It is desirable that such an agency be established permanently.

Efficiency of Marketing Agencies in the Trade Channels.—The adequacy of trade channels should not be confused with the efficiency of marketing agencies in the trade channels. It is not among the purposes of this study to make a detailed analysis of the cost of operation of the various agencies handling Tokay grapes. It is probable, however, that local marketing agencies are not operating at maximum efficiency, because the volume of business is divided among too many agencies. Shippers report that unit costs of local operation could be decreased if the volume were handled by fewer agencies.

There has been a tendency toward the concentration of volume in the hands of fewer agencies as is evidenced by the fact that in 1922 there were 52 shippers in the Lodi district (including grower-shippers), while in 1932 there were 34 shippers. Four factors were primarily responsible: (1) The shippers' gross operating margin has declined as the delivered selling price has decreased (table 13), because shippers' margins are a percentage of selling price. This decline made it unprofitable for some shippers with small volume to operate. (2) Auction companies have curtailed their activities in financing shippers. Some of the shippers who were dependent on this source for funds have ceased operations. (3) Heavy losses incurred by some shippers in financing growers' production operations forced them to liquidate. (4) Cooperative shipping has increased in the Lodi area; six of the ten cooperative shippers organized between 1922 and 1932.[28]

[28] The dates of organization of cooperative shippers are as follows: Acampo Fruit Growers, 1921; Ampere Fruit Growers, 1924; Crown Fruit Company, 1924; Daugherty Fruit Growers, 1926; Live Oak Fruit Company, 1926; Lodi Fruit Growers, 1919; Northern California Fruit Growers, 1922; Sunset Fruit Growers, 1921; Victor Fruit Growers, 1920; and Woodbridge Fruit Growers, 1927.

From the standpoint of operating efficiency of local marketing agencies, it is desirable that the trend toward fewer agencies with accompanying concentration of volume be continued.

The Fruit Auctions as Price-Making Mechanisms.—Apart from the adequacy of fruit auctions and the efficiency with which the physical products are handled by such agencies, numerous Tokay growers and shippers question the effectiveness of the fruit auctions, particularly in New York, as price-making mechanisms.

A brief history and description of auction selling in New York will aid in understanding and appraising the present auction situation in New York.[29]

Prior to 1921, three fruit-auction companies conducted sales in New York. Their sales were, however, held in one room, each company taking its turn in making their sales. A fourth auction company was organized that year and its deciduous-fruit sales were held at the same hour as the deciduous-fruit sales of the older companies. The sales were held in adjacent rooms to permit buyers to shift from one room to the other as offerings attracted them.

In 1924, one of the older fruit-auction companies withdrew from the rotation arrangement of selling, and established another auction; hence, at the present time (1932), there are three regular deciduous-fruit sales conducted simultaneously. In addition to the regular sales there are frequently "second" sales conducted when the volume of fruit to be sold is extremely large. The "second" sales are started at 9:30 a.m. whereas the regular sales begin at 8:30 a.m. Consequently, there are at times from 5 to 6 deciduous-fruit sales conducted simultaneously.

Opinion differs concerning the influence of the holding of simultaneous sales on the effectiveness of the auctions as price-making mechanisms. On the one hand, it is argued that simultaneous sales curtail auction effectiveness because the principle upon which auction selling is predicated is the concentration of supply and demand at one place and time. Miller and Hauck[30] in discussing the factor of simultaneous sales state: "Manifestly this prevents to a greater or lesser degree the convening of the demand in one place at one time, even though some dealers maintain two or more auction buyers to enable them to be represented at each sale." On the other hand, some believe that under existing conditions in the New York market the holding of simultaneous sales

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[29] For a detailed history and description of the fruit auctions see: Miller, Admer D., and Charles W. Hauck. American fruit and produce auctions. U. S. Dept. Agr. Dept. Bul. 1362:1–36. 1925.

[30] Miller, Admer D., and Charles W. Hauck. American fruit and produce auctions. U. S. Dept. Agr. Dept. Bul. 1362:20. 1925.

does not affect the effectiveness of the auctions as price-making mechanisms. They point out that with the large volume which is sold at auction, one, or only a small number of sales, would mean that sales would be prolonged and that many buyers would leave the sales before they were over. Late sales mean late deliveries to the places of business of the buyers, and late sales usually mean lower prices. For this reason, the selling trade as well as the buying trade have supported the simultaneous sales.[31]

It is difficult to appraise the effectiveness of the fruit auctions as price-making mechanisms without obtaining more objective data than are now available. The present auction situation, particularly in New York, appears to be the result of compromise between conflicting interests and forces. Hypothetically, the holding of simultaneous sales would seem to impair the effectiveness of auction selling, yet other factors are operating which might make it undesirable to limit the number of sales.[32]

TRADE RELATIONS

With the movement of Tokay grapes through the various trade channels between producer and consumer, a body of trade relations has become established among the several agencies which handle the product.

A knowledge of existing trade relations is important in understanding the marketing of Tokay grapes and in determining possibilities for improvement. This knowledge is also essential in determining the type and form of organization which is best suited to accomplish a particular marketing objective. It is also desirable that these relations be definite and equitable, especially between producer and shipper, because the producers' principal contact with marketing problems and practices is through the shipper.

Grower-Shipper Relations.—The relations between growers and shippers vary widely. Some shippers make annual contracts with growers to market their crops and sell them the supplies needed in marketing; other shippers, particularly cooperative shippers, make continuous contracts which carry the privilege of withdrawal each year.[33] The annual contracts usually provide that if the grower is indebted to the shipper at the end of the marketing season the contract remains in force covering succeeding crops until the indebtedness of the grower is liquidated.

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[31] The author is indebted to F. W. Heegblade, of the Earl Fruit Company, San Francisco, California, and to A. D. Miller, of the Brown and Seccomb Fruit Auction Company of New York, for information on the auction situation in New York.

[32] Subsequent to the completion of this study two of the fruit-auction companies in New York merged their interests. See: Pacific Coast Packer 27(52):1. 1932.

[33] In the case of some cooperatives the member's signature to the by-laws constitutes an execution of a marketing contract.

Some shippers, however, do not make contracts with growers, yet handle the crops of growers on the same basis as the shippers who do make contracts. Still other shippers make contracts with some of the growers they serve but not with other growers. Furthermore, there are several growers with large acreages who are grower-shippers in that they themselves perform the functions of assembling their products into carloads. At the same time, there are some growers who market portions of their crops through several shippers. The marketings of these growers are called "split shipments."

In some cases shippers are also distributors, the same firm performing the functions of both. Some growers deal directly with the distributor. The relations of these growers with such firms are similar to those of growers who make contracts with shippers. The firms which operate as distributors as well as shippers handle several other deciduous fruits grown in the Tokay grape area, a fact which explains the permanency of such agencies in this area.

The contracts referred to above between growers and shippers are known as consignment contracts. The grower agrees to pick and haul his products at his own expense to the loading shed of the shipper. The shipper agrees to load and sell the fruit for specified charges. (See pages 43 to 45.) The shipper is usually given full control of the products, including the right to determine the time when, the places where, the parties to whom, and the prices for which he shall sell or dispose of the fruit.

By issuing a receipt for the delivery, shippers who do not make contracts with growers establish much the same relations with the growers they serve when the latter make delivery of their products. This receipt states that it is a consignment receipt and gives the terms upon which the fruit is to be handled.

The significance of the latter arrangement is not apparent to some growers and has been the basis for sharp practices on the part of a few shippers. An illustration is furnished in the following situation. Some growers prefer to sell their crops for cash and refuse to sign consignment contracts with shippers. During the marketing season some shippers actively solicit business from such growers by stating that they have f.o.b. offers. Growers interpret this to mean that the shippers have cash orders and assume that their marketing risks cease when they make delivery to shippers. They do not understand that f.o.b. offers may be cash offers or "f.o.b. usual terms" offers. The latter is not a cash offer but is the weakest form of a consignment offer. (See pages 41 to 42.) Consequently, growers often make delivery to shippers under the impression that their products are being sold for cash at the loading station, while in reality, they are delivering to the shipper for consignment and assume

the marketing risks incurred between the time the shipment is loaded and the time it reaches destination.

A practice of some shippers closely related to the preceding practice is that of soliciting business from growers by stating that they have a cash offer. They may have a cash offer for one carload, but obtain enough volume from growers on the strength of their cash solicitation for several carloads. Growers, upon making delivery, however, are given the consignment receipts referred to above (page 39). It is only when growers are given purchase receipts, which set forth the price of the product or are tendered payment upon delivery, that they are dealing with a shipper on a cash basis.

The relations between growers and shippers are influenced to a considerable extent by the financing of growers by shippers. The majority of Tokay grape shippers extend credit to growers to cover part of their production or harvesting costs, or both. A few shippers do not extend credit for either purpose, while some extend credit for harvesting costs only.

Part of the credit furnished the grower is in the form of materials such as fertilizer, sulfur, and spray material; that is, the shipper carries these items as book accounts until the marketing period. However, considerable cash sums are also advanced to growers by some shippers. As a result of the latter practice some shippers have unsettled accounts with some growers covering a period of several years. A large number of such accounts were settled, however, during 1931 when Tokay prices were relatively high—yet, one shipper reported outstanding accounts with 40 per cent of the growers he served at the end of the 1931 season.

The amount of production credit which a grower can obtain from a particular shipper often determines which shipper will market his products. Similarly, the amount of production credit which some shippers are willing to advance determines the volume of business they handle. This situation results in some shifting of growers from one shipper to another from year to year. There are numerous growers, however, who are not dependent upon shippers for production credit, and there are several shippers who do not attempt to obtain a large volume of business by advancing production credit.

These relations between growers and shippers have an important bearing on most programs which might be undertaken to improve marketing conditions or to restrict shipments in years of large crops. Many shippers, through their financial relations with growers, are in a position to control the marketing policies of a large number of growers. Consequently, any method of attack on marketing problems on an industry-wide basis must receive their support. Furthermore, it is essential that

most, if not all, of them cooperate if a voluntary shipment-restriction program is undertaken.

Shipper-Distributor Relations.—Numerous shippers in the Tokay grape area contract with distributors to perform the selling function. However, several shippers perform the selling function themselves; these are known as independent shippers.

The shipper who markets through a distributor makes a consignment contract with the latter organization which sets forth this relation. The distributor is usually given the authority to determine the time when, the places where, the parties to whom, and the prices for which the distributor shall sell or dispose of the fruit. The distributor agrees to perform these services for a definite charge, usually 10 per cent of the f.o.b. selling price or 7 per cent of the gross delivered selling price.

One of the distributors operating in the Tokay grape area, the California Fruit Exchange, is a cooperative distributor. The relations between shippers and the cooperative are much the same as those established between privately owned distributing agencies and shippers, except that the shippers are owners of the distributing agency.

The shippers who sell through distributors frequently obtain credit from or through them, which the shippers in turn extend to growers in the manner described on page 40. This financial arrangement is significant because it gives the distributors considerable control over the marketing policies of the shippers they serve.

Independent shippers, those who do not sell through distributors, usually consummate their sales through brokers. Their trade relations with brokers are much the same as the relations described above between shippers and distributors, except that contracts are not made between the shipper and the broker and the broker seldom finances the shipper.

Distributor-Wholesaler Relations.—Tokay grapes sold at private sale are usually sold to wholesalers in carload lots. Such sales are negotiated by distributors through their agents, who are located in numerous cities in the United States, or through brokers. The agents of distributors or the brokers who act for them are called receivers in some markets.

The terms of sale are principally three: (1) cash f.o.b., (2) f.o.b. usual terms, and (3) price arrival. The sales made for cash f.o.b. are, as the terms indicate, cash transactions for grapes in carloads at loading point. The purchaser obtains title there and assumes the risks incurred between the time of purchase and subsequent sale which is usually the period of time between shipment and arrival of the grapes at destination.

Grapes sold f.o.b. usual terms are sold for a named price but the contents of the carload are subject to the buyer's inspection upon arrival at destination. In effect such a transaction is a weak form of a consignment

transaction, because if prices fall between the time the shipment was loaded and the time it reaches destination, the purchaser usually finds fault with the quality of the fruit and asks for a reduction in price, and the seller must either consent to a reduction or attempt to find another buyer. On the other hand, if prices rise in the interval between shipment and arrival the buyer usually is satisfied with the quality of the fruit and accepts the fruit at the price previously agreed upon. Many shippers vigorously oppose this type of transaction because it guarantees the buyer against a rise in price but does not protect the seller from a decline in price.

Shipments sold on a price-arrival basis are sent to the point where the purchaser is located with the understanding that the price will be agreed upon when the shipment reaches destination. Usually settlement is made on the basis of the prevailing prices for similar quality and grade in the nearest or a designated auction market. Under this type of transaction the seller stands to gain or lose as prices rise or fall between the time of shipment and arrival. The principal disadvantage of this type of transaction is that the seller is in a weak bargaining position if, for one reason or another, the buyer rejects the shipment when it reaches the market in which the buyer is located.

Shippers who do not sell through distributors have much the same trade relations with wholesalers as the foregoing relations between distributors and wholesalers through brokers. The brokers through whom they deal are, however, usually buying brokers in that they represent purchasers primarily and attempt to make purchases from among several shippers at the lowest possible prices, whereas distributors serve shippers in the capacity of selling brokers because they represent sellers primarily and attempt to make sales to buyers at the highest possible prices. This distinction is significant because it is one of the reasons why the distributor occupies such an important position in the trade channels for Tokay grapes. During the 1932 season approximately 75 per cent of the total shipments of Tokays were handled by distributors.

Distributor-Auction Relations.—Tokay grapes sold at auction are handled by auction companies for the account of the distributor. The commissions charged by the auction companies vary from city to city according to local conditions and the extent and character of the services rendered; the usual charges range from 1½ to 2½ per cent of the gross selling price. These charges are paid by the distributor out of the 7 per cent commission which he charges the shipper for all marketing services.

The auction companies assume responsibility for collections from the buyers who patronize them. In fact, auction companies settle with the

distributors within 24 to 48 hours after a sale is held, and thus perform a financing function as well as a selling function.

Trade Relations Among Other Agencies.—No attempt was made in this study to analyze the trade relations among wholesalers, jobbers, and retailers handling Tokay grapes. It is probable, however, that much the same relations exist as were found to exist in the marketing of California apples.[34] In private-sale markets wholesalers sell to jobbers in quantities of from 10 to 100 packages; jobbers sell to retailers in quantities of from 1 to 5 packages; while retailers sell to consumers in quantities of from 1 to 5 pounds. In auction markets some jobbers and retailers buy their supplies directly from the auctions, while others buy through brokers. These transactions are usually accompanied by credit arrangements, that is, the wholesaler finances the jobber to some extent by carrying his purchases as book accounts for a period of from 10 to 30 days, and the jobber finances the retailer in a similar way. Auction companies usually carry the accounts of their patrons from 10 to 15 days. However, buyers must arrange for credit in advance of their purchases.

MARKETING COSTS

The average costs incurred in the marketing of Tokay grapes from the point of loading through, and including, the consummation of sale in the wholesale markets at points east of the Rocky Mountains for the period 1925–1932 are shown in table 13. The total costs per package have remained fairly constant (column 2 of table 13); the range was from $0.844 a package in 1932 to $0.911 in 1926, a fluctuation of approximately 8 per cent. On the other hand, the delivered selling price varied from $1.11 a package in 1932 to $1.59 in 1931, or more than 43 per cent.

Individual Cost Items.—The materials used in packaging grapes have declined somewhat in price since 1929. There is, however, a wide variation in the prices paid for packaging materials by growers inasmuch as some growers order these items in large quantities and some order in small quantities; yet the trend in prices for package materials has been downward since 1929.

Loading charges have been constant throughout the period 1925–1932. There is some variation from these charges inasmuch as some shippers load large quantities for a somewhat lower rate, and some growers load their own grapes at a lower cost than the prevailing rate of 3 cents a package.

Freight and refrigeration costs have fluctuated somewhat. The freight rate to most eastern points during most of the period was $1.73 a hun-

[34] Stokdyk, E. A., H. E. Erdman, Charles H. West, and F. W. Allen. Marketing California apples. California Agr. Exp. Sta. Bul. 501:72–85. 1930.

dredweight, except in 1928 and 1929 when it was $1.60 a hundredweight. In 1932, there was a slight reduction in the effective freight rate per package because during the major portion of the shipping season carloads of grapes were accepted by the railroads at specified billing weights instead of at actual weight. In the case of Tokay grapes the accepted billing weight was 29 pounds per package, whereas the actual weight per package was approximately 31 pounds.

TABLE 13

MARKETING COSTS, GROSS SELLING PRICE, AND PERCENTAGE MARKETING COSTS WERE OF GROSS SELLING PRICE, 1925–1932

Year	Delivered selling price	Average total marketing costs		Package material costs		Loading charges		Freight and refrigeration		Selling	
	Dollars per package	Dollars per package	Per cent of gross selling price	Dollars per package	Per cent of gross selling price	Dollars per package	Per cent of gross selling price	Dollars per package	Per cent of gross selling price	Dollars per package	Per cent of gross selling price
	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*
1925	1.20	0.890	74.2	0.126	10.5	0.030	2.5	0.650	54.2	0.084	7.0
1926	1.43	0.911	63.7	0.131	9.3	0.030	2.1	0.650	45.5	0.100	7.0
1927	1.40	0.907	64.8	0.129	9.2	0.030	2.1	0.650	46.4	0.098	7.0
1928	1.31	0.858	65.5	0.132	10.1	0.030	2.3	0.604	46.1	0.092	7.0
1929	1.42	0.868	61.1	0.135	9.5	0.030	2.1	0.604	42.5	0.090	7.0
1930	1.14	0.890	78.1	0.130	11.4	0.030	2.6	0.650	57.0	0.080	7.0
1931	1.59	0.919	57.8	0.128	8.1	0.030	1.9	0.650	40.9	0.111	7.0
1932	1.11	0.844	76.0	0.115	10.4	0.030	2.7	0.621	56.0	0.078	7.0

Sources of data:

Col. 1: from table 2.
Col. 2: is the sum of cols. 4, 6, 8, and 10.
Col. 3: calculated from cols. 1 and 2.
Col. 4: from the records of the Pacific Fruit Exchange. Lodi, California. Courtesy of W. H. Thompson.
Col. 5: calculated from cols. 1 and 4.
Col. 6: from the Pacific Fruit Exchange. San Francisco, California. Courtesy of Joseph Guidera.
Col. 7: calculated from cols. 1 and 6.
Col. 8: from the California Growers and Shippers Protective League. San Francisco, California. Courtesy of M. E. McKirahan.
Col. 9: calculated from cols. 1 and 8.
Col. 10: is 7 per cent of col. 1 which is the selling charge.
Col. 11: calculated from cols. 1 and 10.

The average selling charge has varied from 7.8 cents a package in 1932 to 11.1 cents in 1931. The reason for this variation is apparent from column 11 of table 13, where it is shown that the selling charge is a constant percentage of the gross delivered selling price.

Marketing Costs in Relation to Selling Prices.—In addition to the average costs incurred in marketing, table 13 also shows the various marketing costs as a percentage of the gross delivered selling price. Column 3 shows that total marketing costs have been as low as 57.8 per cent of the selling price in 1931 and as high as 76.0 per cent in 1932. The reason for this situation is that marketing costs remained fairly constant

while gross selling prices fluctuated markedly. Such a situation points out the fallacy of attempting to judge the efficiency of marketing agencies over a period of years on the basis of the percentage of the gross selling price or the percentage of the consumer's dollar returned to growers. It also shows the error of attempting to compare the efficiency of one marketing agency handling one commodity with another agency handling a different commodity. It is only when the efficiency of a number of agencies handling the same commodities under similar circumstances, during a definite period of time, is to be compared that the percentage of the gross selling price or the percentage of the consumer's dollar returned to the grower is of any significance. Even then such an approach to an appraisal of the efficiency of marketing agencies is open to criticism because of the varying conditions under which marketing agencies operate.

Other Marketing Costs.—The preceding costs incurred in the marketing of Tokay grapes do not include picking, packing,[35] and hauling expenses. Consequently, before net returns to growers can be calculated these items must be deducted. Such expense items are, however, extremely variable because some growers perform these tasks with their own equipment and labor while other growers hire such services. Those growers who kept records of the cost of picking, packing, and hauling estimated the costs of these items as approximately 14 cents a package during the period 1925–1931 and at 12 cents a package in 1932.

Reductions in Costs.—It will be noted from table 13 that the greatest reduction in marketing costs took place between 1931 and 1932. It is probable that some further reduction can be made in the future inasmuch as several of the cost items are subject to bargain. However, the largest item, freight and refrigeration, is not subject to bargain but can only be obtained upon application to and hearing before administrative bodies such as the Interstate Commerce Commission and the California Railroad Commission.

THE TOKAY CLEARING HOUSE

One of the principal problems in the marketing of Tokay grapes is the planning of the distribution of shipments among the principal market areas to obtain the highest total returns with a given volume to be marketed (pages 26–33). The results of unplanned distribution during the first part of the 1931 season were also pointed out in pages 12 to 14.

In 1932 a Tokay grape clearing house was operated during the entire season. The set-up, objectives, and operations of this organization will be

[35] It is the common practice for growers to do their own packing in the field.

of interest because many persons do not understand the possibilities and limitations of such organizations.

Set-up of the Clearing House.—At the beginning of the 1932 Tokay grape shipping season, the shippers representing approximately 90 per cent of the volume marketed agreed to clear their records of shipments through a central agency, the California Grape Control Board. Each participating shipper furnished this agency a daily record of the carloads of Tokay grapes he had in transit, which he expected to sell in the

TABLE 14

TOKAY GRAPE CLEARING-HOUSE REPORT, OCTOBER 15, 1932

City	Probable number of carloads for sale on				
	Monday Oct. 17	Tuesday Oct. 18	Wednesday Oct. 19	Thursday Oct. 20	Friday Oct. 21
Baltimore	2	1	1	1	1
Boston	8	4	3	3	2
Chicago	3	3	3	0	0
Cincinnati	2	0	1	0	0
Cleveland	2	0	1	0	0
Detroit	2	0	0	0	0
Minneapolis	2	0	1	1	0
New York	12	9	5	5	6
Philadelphia	9	4	4	2	1
Pittsburgh	2	1	0	0	0
St. Louis	2	0	0	0	0
St. Paul	2	0	1	0	0

Source of data:

California Grape Control Board Clearing House. Special Tokay report No. 39. October 15, 1932. San Francisco, California. (Mimeo.) Courtesy of Mr. E. W. Stillwell.

principal auction markets, together with a statement noting the date that such carloads would arrive at their destinations.

The Control Board Clearing House tabulated these records daily and furnished each participating shipper a summary of such tabulations similar to that shown in table 14. Shippers, after receiving the summary, frequently diverted shipments from markets which the summary indicated would have excessive supplies, to markets which the summary indicated would have relatively small supplies. Before such diversions were made, however, shippers usually consulted with the manager of the Clearing House to determine whether other shippers were contemplating similar action in order to avoid duplication in diversions.

Functioning of the Clearing House.—The manner in which this organization functioned can be more readily comprehended from the records of the Clearing House for sales in New York for the period October 17 to 28, 1932. Table 15 shows the dates of the Clearing-House reports

and the number of carloads that were likely to be sold in New York on specified dates. The last figure in each column shows the number of carloads actually sold on the specified dates.

It is evident from table 15 that there was often considerable adjustment in the number of carloads destined for New York between the time

TABLE 15

SUMMARY OF CLEARING-HOUSE REPORTS FOR NEW YORK, OCTOBER 17 TO 28, 1932

Date of clearing-house report	Probable number of carloads to be sold in New York on									
	Monday Oct. 17	Tuesday Oct. 18	Wednesday Oct. 19	Thursday Oct. 20	Friday Oct. 21	Monday Oct. 24	Tuesday Oct. 25	Wednesday Oct. 26	Thursday Oct. 27	Friday Oct. 28
Oct. 11	6	....	....	....	....	....	....	....	....	....
Oct. 12	11	5	....	....	....	....	....	....	....	....
Oct. 13	15	8	2	....	....	....	....	....	....	....
Oct. 14	12	12	3	4	....	....	....	....	....	....
Oct. 15	12	9	5	5	6	....	....	....	....	....
Oct. 17	14	12	5	8	10	....	....	....	....	....
Oct. 18	....	7	6	9	11	....	....	....	....	....
Oct. 19	....	....	8	9	12	9	3	....	....	....
Oct. 20	....	....	....	9	11	16	6	2	....	....
Oct. 21	....	....	....	....	13	18	10	3	....	....
Oct. 22	....	....	....	....	....	17	11	5	11	5
Oct. 24	....	....	....	....	....	16	9	5	11	5
Oct. 25	....	....	....	....	....	....	9	5	9	7
Oct. 26	....	....	....	....	....	....	....	10	9	9
Oct. 27	....	....	....	....	....	....	....	....	9	8
Oct. 28	....	....	....	....	....	....	....	....	....	9

Source of data:

California Grape Control Board. Special Tokay reports Nos. 35-50. October 11-28, 1932. (Mimeo.) Courtesy of E. W. Stillwell.

of the first issuance of the Clearing-House report covering a specific date and the actual date of sale. For example, the October 12 Clearing-House report indicated 5 carloads of Tokays for sale in New York on October 18, the October 14 report showed 12 carloads, whereas on October 18 there were 7 carloads actually sold.

It is also evident from table 15 that shippers planned to sell larger quantities in New York on Mondays and Fridays (the days of the week which were shown on pages 32 to 33 to be the days of strongest demand) than on other days of the week. Thus there was planning of the time of sale as well as the planning of distribution among markets.

Factors Influencing Clearing-House Attainments.—The degree to which the clearing-house arrangement can accomplish the objective of increasing total returns to growers by planning distribution among markets and by the timing of sales depends upon three principal factors. The first is the extent of participation on the part of shippers. If ship-

pers representing a considerable percentage of the total volume will not participate, it is obvious that the efforts of the Clearing House would be futile. Furthermore, it is essential that participating shippers report promptly to the Clearing House any changes in intentions to ship to given markets in order that all shippers may be constantly informed concerning the probable volume to be sold in each market.

The second factor affecting the possibility of increasing returns through a clearing-house organization is the accuracy of information relative to the market capacity of the principal markets and the accuracy of information on periods of weak and strong demand. See pages 26 to 33 for an example of an analysis of such data.

The third factor is the utilization of data on market capacity, together with current information on shipments, in directing shipments to the more important market areas.

Possibilities and Limitations of a Planned Distribution Program Under Clearing-House Organization.—That there are distinct possibilities of increasing total returns to growers in a planned distribution program is indicated in table 11 where 10 hypothetical distributions of a given volume are shown. Under distribution No. 1, where equal pressure was put on all markets, returns to growers would be approximately $15,000 more than under distribution No. 10, or approximately 4 per cent.

The possibility of increasing total returns to growers in a planned distribution program as compared with unplanned distribution is, however, limited. It must be remembered that the clearing house, unless definitely given such authority, has no control over the total volume to be marketed. It was shown above (pages 16 to 18) that during a given season the total volume marketed is the most important factor influencing prices. This factor frequently obscures the results of a distribution program, and those who do not recognize the difference between a planned distribution program and a shipment-restriction program are likely to depreciate the results of the former.

The planning of distribution, even though it has distinct limitations, is a marketing objective worthy of attainment. Growers would be warranted in marketing only with the agencies that participate in such a program.

Extension of Activities.—The operations of the 1932 Tokay Grape Clearing House were confined to the collection and dissemination of data which aided shippers in planning the distribution of sales among the auction markets. No attempt was made to assemble data on shipments to private-sales markets. It is the opinion of some shippers, particularly those who sell most of their volume in such markets, that the operations

of the clearing house could well be enlarged to include distribution in private-sales markets. There is no question that such an extension of operations would eliminate, at times, the congestion which results in some of these markets when two or more shippers consign to a smaller market. It is doubtful, however, if the results which might be obtained from such an enlargement of activities would warrant the expenditure of the funds which would be necessary to collect and disseminate the information on private-sales markets. There are some 200 markets in which private sales of Tokay grapes are made, and as was pointed out above (page 36), there are 34 shippers (including grower-shippers).

Another objection to such an extension of activities on the part of the clearing house is that there would be considerable conflict among shippers on prices at which sales were to be made in these markets. Some shippers market the best quality they have available at private sale while others dispose of their best quality at auction. The one who sold his best quality in these markets would charge the seller of the poorer quality with price cutting. Again, one shipper may be willing to reduce his quoted price on a given carload in a particular market rather than to divert it to some other market, while another shipper may prefer to chance diversion; yet the latter may take the position, if he were furnishing records to a clearing house, that the former was attempting to take his market.

There is, however, a compensating factor which limits the congestion that might arise in some of the private-sale markets through a lack of exchange of information among shippers on distribution to these markets, and that is an unplanned division of territory. It would be extremely expensive for a given shipper to attempt to make sales in all of the 200 or more private-sales markets. Consequently, some shippers intensify their efforts in certain areas and disregard other areas. Another compensating factor is that some shippers exchange information in an informal manner with other shippers whom they know are competitors in the territories in which they intensify their sales activities.

An extension of the activities of the Tokay Clearing House that might well be made is the analysis of current data, similar to that made in this study (pages 26 to 33) on the market capacity of the principal markets, as an aid in planning the distribution of sales in these markets. Such an analysis of current data would also be of assistance in determining the extent to which shipment restriction is advisable when such programs are undertaken.

SHIPMENT RESTRICTION IN 1932

During the period this study was being conducted (May, 1932, to December, 1932) a shipment-restriction program was undertaken.[36] Growers had witnessed a crop of 7,670 carloads selling for an average delivered price of $1.14 a package in 1930 and a crop of 4,109 carloads selling for $1.59 in 1931. With harvesting and marketing expenses averaging about $1.03 a package, this meant that the large crop in 1930 netted approximately $750,000 while the small crop in 1931 netted more than $2,000,000.

The season of 1932 promised to be another large crop year and the purchasing power of consumers was known to be lower than in the two previous years. It was evident from the analysis of the factors affecting prices (pages 16 to 18) that the shipment of the entire crop of Tokays would result in an average selling price which was less than picking, packing, loading, transportation, and marketing expenses. Those who are not familiar with marketing conditions in California often inquire why growers ship their products under such conditions. The answer is that California is nine days distant from most markets and that a large part of her deciduous fruits are shipped on consignment. It is no simple matter to judge what will happen in the fresh-fruit markets nine days in advance. Besides, in large crop years cash orders are few, hence, growers take the chance that shipments will net something.

Set-up of the Restriction Program.—Several growers and shippers recognized the seriousness of the 1932 situation and called a mass meeting of growers to consider what action might be taken. At the mass meeting a growers' committee was named to work out and present a shipment-restriction plan.

This committee, eighteen in number,[37] considered several proposals. The one recommended and later adopted by another mass meeting of growers was that of rating the productive capacity of each grower's vineyard and allotting shipments on the basis of the percentage each grower's rating was of the total rated capacity of all vineyards. For example, if John Jones' vineyard were rated at 60,000 packages and the total rated capacity of all vineyards were 6,000,000 packages, Jones' rating would

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[36] A considerable portion of the data obtained in the course of this study was made available to those in charge of the restriction program.

[37] The committee of eighteen was composed of the following: James T. Langford, chairman; David Weigum; R. C. Bridge; Rolla Custer; Ray Van Buskirk; O. L. Marrs; Frank Aberlee; Verne Hoffman; S. T. Henderson; C. J. Weber; Earl Darrah; E. E. David; Lauren Wilkinson; Irving Ridenour; Rudolph Rode; Charles Spiekerman; W. B. May; and Edward Preszler.

be 1 per cent of the total. Then if it were decided to restrict shipments to 300,000 packages a week, Jones would be entitled to ship 1 per cent of 300,000 packages or 3,000 packages.

The rating of each grower's vineyard presented many difficulties. The determination of what constituted a normal, or full, crop for a particular vineyard was the first. It was decided to obtain, as accurately as possible, the performance of each vineyard in 1930, a crop year when there was no frost during the early part of the season and no heat damage during the latter part of the season. Growers and shipping companies were asked to submit the records of their marketings in 1930. The committee analyzed these records, checking them by districts, obtaining additional or missing data, making personal inspections of many tracts, and making adjustments for increases in tonnage that might be expected with an increase in the age of young vineyards between 1930 and 1932. This work was begun in June and finished in early September when the season was already under way; this fact is pointed out for the benefit of other groups who may contemplate a similar program. Delays were numerous because some growers and shippers were slow to submit their records; only constant effort on the part of the committee brought the ratings to completion.

When the ratings were finally totaled and each grower's percentage of the total was calculated, these percentages were tabulated by shipping companies and a record sent to each. Some difficulty was experienced here, however, because some growers dealt with more than one shipping company, and some growers had not indicated the shipping company with whom they would deal in 1932.

Functioning of the Program.—When the volume of shipments reached a point where some restriction of shipments was thought advisable, the committee of eighteen, after deciding in conference with shippers the total quantity to be marketed each week, asked each shipping company to inform the growers whom they served, how many packages they were allotted for the week. The shipping companies reported their shipments at the end of the week to the committee.

This program was undertaken without contracts among growers or shippers. It was recognized at the outset that all growers and all shippers would not participate, but it was felt that as many or more growers and shippers would participate without contracts as with contracts. The committee stated, however, that if too large a percentage of growers and shippers did not participate the program would be abandoned. It was evident at the start that a few shippers would not participate, in fact some actively solicited business from growers who desired to market

more than their allotment as recommended by the committee of eighteen. It should be noted, however, that these were relatively few.

The record of the performance of all shipping companies during the period of shipment restriction is shown in table 16. The first week shipments exceeded the recommended quota by 6.6 per cent, the second week

TABLE 16

PERFORMANCE OF SHIPPERS UNDER TOKAY GRAPE SHIPMENT-RESTRICTION PROGRAM

Week ending	Quota	Shipped	Over quota		Under quota	
Participating shippers						
	packages	*packages*	*packages*	*per cent*	*packages*	*per cent*
Sept. 25	280,201	279,953	.....	.....	248	0.1
Oct. 2	282,788	230,246	.....	.....	52,542	18.6
Oct. 9	263,595	224,063	.....	.....	39,532	15.0
Oct. 16	237,478	256,456	18,978	8.0	.....	.....
Oct. 23	.....	385,696	.....	.....	.....	.....
Nonparticipating shippers						
Sept. 25	41,799	63,329	21,530	51.5	.....	.....
Oct. 2	39,212	72,590	33,378	85.1	.....	.....
Oct. 9	20,405	51,563	31,158	152.7	.....	.....
Oct. 16	38,522	140,994	102,472	266.0	.....	.....
Oct. 23	.....	51,727	.....	.....	.....	.....
All shippers						
Sept. 25	322,000	343,282	21,282	6.6	.....	.....
Oct. 2	322,000	302,836	.....	.....	19,164	6.0
Oct. 9	284,000	275,626	.....	.....	8,374	2.9
Oct. 16	276,000	397,450	121,450	44.0	.....	.....
Oct. 23	.....	.....	.....	.....	.....	.....

Source of data: Committee of eighteen, Lodi, California. Courtesy of James T. Langford.

shipments were 6.0 per cent less than quota, the third week 2.9 per cent less, and the fourth week 44.0 per cent in excess of quota.

The performance of participating shippers in comparison with that of nonparticipating shippers is of significance. Nonparticipating companies exceeded their quota each week while participating shippers marketed a quantity under their quota during three weeks and exceeded their quota one week.

Following the week ending October 16 the committee of eighteen decided to make no recommendations on the volume to be shipped because nonparticipating shippers had shipped more than 50 per cent of the total allotment for all shippers, although participating shippers repre-

sented approximately 85 per cent of the total allotment. It became increasingly difficult to obtain the cooperation of participating shippers in restricting shipments when their grower-patrons marketed an increasing volume with nonparticipating shippers. It is worthy of note, however, that the participating shippers held to the restriction longer than some of the growers they served.

Results and Appraisal.—An appraisal of the effectiveness of the Tokay shipment-restriction program can be made from table 17 which shows the volume sold in all markets in relation to the average of delivered auction prices. The volume sold is a two weeks' average of ship-

TABLE 17

Volume of Tokays Sold and Prices, 1932 Season

Week ending	Volume sold*	Average auction prices†
	carloads	*dollars*
September 3	158	1.52
10	308	1.28
17	474	1.06
24	499	0.97
October 1	398	1.23
8	399	1.22
15	526	1.12
22	509	0.99
29	433	.....

* An average of two weeks' shipments.

† Prices advanced two weeks.

Source of data:
Compiled from Federal-State Market News Service. Grape Reports. Fresno and San Francisco. 1932. (Mimeo.)

ments as compared with the prices which prevailed two weeks following the first week considered in averaging shipments. It will be noted from table 17, that prices declined during the first four weeks of the season as the volume sold increased; then, as the volume sold decreased, prices rose, but prices fell again as the volume sold increased. The shipment-restriction program was begun September 19 and continued until October 19.

The average delivered selling prices each week of the season were above picking, transportation, and marketing costs. These costs were approximately $0.96 a package in 1932—about $0.07 less than in 1931 owing to some reduction in labor, package, and transportation costs. It should be pointed out, however, that the selling prices are averages; some growers received less than these averages and some more, largely according to the quality they marketed.

The shipment-restriction program demonstrated clearly that prices for Tokay grapes were influenced by the volume of Tokay grapes marketed. This fact is of significance to Tokay grape growers because prior to the operation of the program many growers believed that if the volume of shipments of Tokays were restricted other varieties of California table grapes would be marketed in larger quantities and that the prices of Tokay grapes would not respond to shipment restriction. This fact is also of significance to research workers because it demonstrated what an analysis of the factors affecting prices indicated, namely, that one of the principal factors influencing the prices for Tokay grapes is the volume of shipments. It is probable that the restriction of shipments of Tokays induced some consumers to purchase other varieties of table grapes. It is also probable that had there been some restriction on the volume of other table grapes marketed, such restriction would have had some influence on Tokay grape prices. However, it is clear that the restriction of Tokay shipments did not induce all consumers to purchase other varieties and that Tokay grape growers could increase their returns by limiting the shipments of this particular variety.

The shipment-restriction program also demonstrated that the responsibility for the success or failure of such an undertaking was primarily that of growers; most marketing agencies adhered to the program longer than did some growers.

One of the difficulties encountered during the period the restriction program was conducted was that of judging the extent to which shipments may be restricted to obtain reasonable prices. It will be noted from table 16 that those in charge of the program recommended the shipment of 322,000 packages during the weeks ending September 25 and October 2, 1932, while during the weeks ending October 9 and October 16, a volume of 284,000 and 276,000 packages respectively were recommended. The recommended volume during the weeks ending September 25 and October 2 proved to be too large to obtain a reasonable price (an average selling price of from $1.20 to $1.30 a package). Two factors were primarily responsible for this difficulty: the first was the lack of information on the volume of shipments which was likely to be made by growers and shippers who did not participate in the restriction program; the second was the uncertainty of the effect which the change in consumer purchasing power between 1931 and 1932 was likely to exert on the demand for Tokay grapes.

The first factor is a problem in all voluntary proration programs. It is likely to be one of increasing difficulty because growers who have not participated in such programs and have marketed their products without restriction will be likely to gage their marketings in anticipation

of the restrictions on marketing by those growers who participate in the program.

The second factor is a difficulty which is likely to be overcome, to a considerable extent, by experience with such programs and with the aid of data on factors affecting prices. There is, however, the probability of error even with the best of information available. Growers and shippers must recognize this fact when shipment-restriction programs are undertaken.

SUGGESTED FORM OF CERTIFICATE

Grower No. 1 Week of season *No. 5* Delivered to shipper No.....

Shipping allotment *1.00%* Date.....

Equivalent to.....packages* Shipper's signature.....

This is to certify that the grower whose number and name are listed with the *Blank Shipment Control Committee* is entitled to ship the number of packages shown above during the week of the season indicated. This certificate is negotiable and can be assigned by the grower. It must accompany deliveries of growers to shipping or packing companies and be filed by shippers and packers with other documents relating to their shipments.

Blank Shipment Control Committee

By *John Doe*, Secretary.

* The number of packages to be calculated after the Shipment Control Committee makes its recommendations on the total amount to be shipped during the week for which this certificate is valid.

Certificate No. 800

Suggested Administrative Changes.—In the event that a shipment-restriction program is again undertaken, it is recommended that each grower's rating be allotted directly to him by certificates rather than indirectly by a memorandum to the shipping agency with whom he deals.

The certificates would set forth the grower's name or number, his rating as a percentage of the total rated capacity of all vineyards, and the week of the shipping season in which each certificate would apply. Provision could also be made for other information which would aid in the checking of records incidental to a restriction program. Such certificates would be negotiable and transferable and would accompany the deliveries of growers to shipping companies and be filed by shippers with other documents relating to their shipments. A suggested form of certificate is shown above.

The advantages of the employment of certificates in connection with a shipment-restriction program are several:

1. It allocates each grower's rating directly to him instead of through a shipping company, and thus avoids the possible favoring of one grower over another by a shipper giving shipping privileges to one grower that belong to another. At the same time it would simplify the checking of records particularly on split shipments.

2. It gives each grower the opportunity to utilize his rating as he sees fit. If he desires to harvest his crop one week instead of another, he can trade certificates with a neighbor. If he wishes to allow his entire crop to remain unharvested, he may do so, yet he may dispose of his certificates to other growers. At the same time it would relieve shippers of the task of making adjustments among growers in the time of harvesting. Such adjustments would be a grower's problem.

3. It would permit adjustments among growers of high and low-quality grapes and would likely result in a higher quality being marketed. Grower A may have very low quality and grower B higher quality. Grower B could afford to purchase grower A's certificates and ship his entire high-quality crop and allow grower A's low-quality crop to remain unharvested. Both might profit by such a transaction, and the quality of the crop shipped from the district would be higher than if A had shipped his crop.

4. It would in all probability tend to induce more growers to participate in and adhere to a restriction program because each grower's record of shipments could be quickly ascertained.

5. The employment of certificates would provide an easy method of financing a restriction program. A small fee for certificates could be collected when growers obtained their certificates from the Shipment Control Committee.

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The available data indicate approximately 30,000 acres of Tokay grapes in California with a production of nearly 154,000 tons in 1930. Since 1925 the acreage has remained practically stationary; however, approximately 12 per cent of the acreage is not yet in full bearing.

Most of the acreage is concentrated in two counties, San Joaquin and Sacramento, with 59.4 and 29.7 per cent respectively. Production is heaviest in San Joaquin County with 76.4 per cent in 1930.

Interstate shipments of Tokays have fluctuated between 3,982 and 7,456 carloads during the period 1921 to 1932. In several years considerable tonnage was not harvested. Average annual delivered auction prices have varied from $1.11 a package in 1932 to $2.10 in 1921.

The Tokay grape shipping season usually begins the latter part of August and ends the first part of November. During the principal part of the season this variety dominates the California table-grape movement. There has been a tendency for Tokay grape prices to be relatively high early in the season (late August) and then to decline sharply during most of September with some recovery in late September or early October.

The major fluctuations in Tokay grape prices in the principal auction markets occur almost simultaneously; however, during a given week of the season prices in the several markets often varied considerably. Part of the variation is accounted for by differences in quality and a part by the fluctuations in the supply of Tokay grapes on each of the markets at a particular time.

There has been a marked tendency for the percentage of each season's Tokay grape shipments sold in the fruit auctions to decline. In 1925 approximately 50 per cent was sold in the auctions; in 1932 there was only 35 per cent. The factors primarily responsible for the decline have been (1) a more vigorous development of private-sales markets by some marketing agencies, (2) a curtailment in the financing of shippers on the part of auction companies, and (3) some increase in direct purchases instead of through the auctions on the part of chain-store systems.

There was a distinct relation between the prices prevailing in important market centers in a given week and the volume of Tokay grapes shipped to these markets the succeeding week. High prices in a given market one week attracted shipments to that market the next week, while low prices in a given market repelled shipments the next week. This relation is of significance to an agency planning the distribution of shipments, particularly if all marketing agencies are not cooperating in the planning program.

Annual Tokay grape prices have been influenced by three principal factors: (1) the volume of interstate shipments of Tokay grapes, (2) the volume of interstate shipments of other California table grapes, and (3) changes in the general price level, as measured by the all-commodity index of wholesale prices. Other factors which influenced prices were: variations in quality, the seasonal distribution of shipments, and the distribution of shipments among the principal markets.

Data are presented on pages 16 to 22 to show how an analysis of the factors affecting prices may be employed in determining the advisability of conducting a shipment-restriction program and the extent to which shipment restriction might be conducted to obtain the highest total returns.

The average of weekly Tokay grape prices in the principal auction markets during a given marketing season was influenced by two measurable factors: (1) the volume of interstate shipments of Tokay grapes, and (2) the prevailing prices of other California table grapes. Other factors were: variations in quality, and the distribution of supplies among the principal markets. Unfortunately, an adequate measure of these factors as price-making forces is not available.

Weekly Tokay grape prices in each of the principal auction markets were influenced by (1) the volume of sales, and (2) the prevailing prices of other California table grapes. Quality was also a factor but an unmeasurable one.

Data are presented in pages 16 to 22 showing how an analysis of the factors affecting prices in each market area may be used in planning the distribution of a given volume among the principal market areas to obtain the highest total returns. The principle involved in distributing is that of placing supplies in the various markets in such a manner that the price in each market is the same. Such a distribution of supplies may be termed "putting equal pressure on all markets."

An analysis of the daily market capacity in New York showed that Monday and Friday are the days of strongest demand. A knowledge of this fact may aid in the timing of sales during a given week.

The principal trade channel series for sales in auction markets is: producer → shipper → distributor → broker or agent → fruit auction → retail outlets → consumer. The series for private sales is principally: producer → shipper → distributor → broker → wholesaler → jobber → retail outlets → consumer. There are numerous variations from the foregoing series of channels as a result of (1) attempts to take the shortest route to the consumer in specified trade areas, (2) the efforts of certain dealers to offer more marketing services, (3) the trade relations which dealers have established, and (4) the risks which individuals engaged in the marketing process have been willing to assume.

The trade channels appear adequate; they afford opportunity for growers and shippers to market their products in the way which suits their particular circumstances and according to the marketing risks they are willing to assume. It is probable, however, that local marketing agencies are not operating at maximum efficiency because the volume of business is divided among too many agencies. Unit costs of local marketing operations could be decreased if the volume were handled by fewer agencies.

There has been a tendency toward the concentration of volume in the hands of fewer agencies; in 1922 there were 52 shippers (including grower-shippers), while in 1932 there were 34 in the Lodi area.

The trade relations between growers and shippers vary widely; yet, most shippers handle the products of growers on consignment. Some growers are unaware that their relation with shippers is a consignment relation, because some shippers solicit business from growers in a manner which infers a cash transaction, but which is in reality a consignment transaction.

The relations between growers and shippers are influenced to a considerable extent by the financing of growers by shippers. Many shippers, through these financial relations with growers, are in a position to control their marketing policies. Consequently, most programs to bring about improvements in marketing on an industry-wide basis must receive the support of shippers.

The trade relations between shippers and distributors are much the same as those between growers and shippers. Independent shippers, those who do not sell through distributors, usually consummate sales through brokers. The brokers through whom they deal are, however, usually buying brokers, whereas the distributor serves the shipper in the capacity of a selling broker. The significance of this distinction is apparent when it is realized that approximately 75 per cent of the total shipments of Tokay grapes are marketed through distributors.

The terms of sale between distributors and wholesalers are principally three: (1) cash f.o.b., (2) f.o.b. usual terms, and (3) price arrival. From the standpoint of the distributor and the growers and shippers they represent, sales made f.o.b. usual terms are least desirable. Such sales are a weak form of a consignment transaction, because if prices fall between the time the shipment was loaded and the time it reaches destination, the purchaser usually finds fault with the quality of the fruit and asks for a reduction in price, and the seller must either consent to a reduction or attempt to find another buyer. On the other hand, if prices rise during the interval between shipment and arrival, the buyer usually is satisfied with the quality of the fruit and accepts the fruit at the price previously agreed upon.

Sales made at auction are made for cash with settlement within 24 to 48 hours after the sale is held. Auction companies assume responsibility for collections from the buyers who patronize them.

Average marketing costs, from the point of loading through and including the consummation of sale in the wholesale markets at points east of the Rocky Mountains, ranged from $0.844 a package in 1932 to $0.911 in 1926, a fluctuation of approximately 8 per cent as compared with a fluctuation of more than 43 per cent in delivered selling prices. Such a situation points out the fallacy of attempting to judge the efficiency of marketing agencies over a period of years on the basis of the

percentage of the gross selling price or the percentage of the consumer's dollar returned to growers.

The Tokay Grape Clearing House, as operated in 1932, collected and disseminated information which aided shippers in planning the distribution of sales among the principal auction markets. Its operations tended to establish equal pressure on these markets throughout the marketing season. The extension of clearing-house activities to include the planning of sales among private-sale markets would be desirable, but it is doubtful if the results which might be obtained would warrant the expenditure of the funds which would be necessary to collect and disseminate the needed information. An extension of activities that might well be made is a more detailed analysis of current data to determine the market capacity of each of the principal markets during a given marketing season. Such an analysis would aid in planning the distribution of sales.

The shipment-restriction program conducted in 1932 resulted in average selling prices each week of the season above picking, transportation, and marketing costs. The procedure in this program was that of rating the productive capacity of each grower's vineyard and allotting shipments on the basis of the percentage each grower's rating was of the total rated capacity of all vineyards.

The shipment-restriction program demonstrated clearly that prices for Tokay grapes were influenced by the volume of Tokay grapes marketed. It also demonstrated that the responsibility for the success or failure of such an undertaking was primarily that of growers; most marketing agencies adhered to the program longer than did some growers.

One of the difficulties encountered during the period the restriction program was conducted was that of judging the extent to which shipments may be restricted to obtain reasonable prices. Two factors were primarily responsible for this difficulty: the first was the lack of information on the volume of shipments which was likely to be made by growers and shippers who did not participate in the restriction program; the second was the uncertainty of the effect which the change in consumer purchasing power between 1931 and 1932 was likely to exert on the demand for Tokay grapes.

Conclusions.—The data obtained in this study indicate two outstanding problems which necessitate industry-wide participation for their solution. The first problem is how to restrict the volume marketed in years of large crops or low consumer purchasing power or both. The second is how to distribute supplies among the principal market areas in such a manner as to maintain equal pressure on all market areas in

order to obtain the highest total returns with a given volume to be marketed.

The data on acreage and production (pages 5 to 7) and the analysis of the factors affecting annual Tokay grape prices (pages 16 to 18) indicate the following situation: Even though the purchasing power of consumers recovers to 1928–1930 levels, all the Tokay tonnage produced in full-crop years from the present acreage cannot be marketed at prices remunerative to even the most efficient producers unless demand for this variety of grapes is increased markedly.

To meet this situation several measures may be employed, the most promising of which, for immediate results, is the restriction of the volume marketed during large crop years.

The first measure which is usually suggested is the removal of acreage either through the impetus of several years of unremunerative prices or in a planned program of vine-pulling. Such a procedure by either method presents numerous difficulties. Acreage reduction, through the operation of low prices, is a slow process particularly when opportunities in the production of other crops are limited. Under these circumstances acreage reduction is likely to take place only after successive owners of the vineyards have become insolvent.

A planned and organized acreage-reduction program presents the difficulty of estimating accurately the extent to which it must be carried so that a sufficient reduction in production will take place to raise prices to remunerative levels. Since one of the principal factors influencing Tokay grape prices is the purchasing power of consumers, a vine-pulling program, which would reduce production sufficiently to meet present purchasing power conditions, would be carried too far for periods of higher purchasing power. Then plantings would again be stimulated and the ultimate result of the vine-pulling program would be large capital losses. If it were certain that consumer purchasing power would remain at 1932–1933 levels for several years the immediate removal of enough vines to reduce production to a point where all of the supplies could be marketed at reasonable prices would be the most economical procedure. It is believed, however, that the purchasing power of consumers will increase within a few years as it has done following previous periods of depression; consequently, the removal of a large number of vines to meet present conditions is not economical.

The foregoing statements do not mean that it is not advisable for some growers under their particular conditions and circumstances to reduce their acreage of Tokay grapes. In fact, it is probable that a number of growers, regardless of what may be done in any industry-wide program, will find it advisable to reduce their acreage.

Another measure which is of importance in meeting the situation in the Tokay grape industry is through the reduction of production and marketing costs. This procedure has, however, distinct limitations because numerous items making up these costs, such as taxes, insurance, and freight rates, remain fairly constant. In addition, there are limits to which reductions in costs, even in those items which are subject to bargain, can be made. Hence, although cost reductions are important

POSSIBLE SET-UP OF TOKAY GRAPE GROWERS' AND SHIPPERS' ORGANIZATIONS

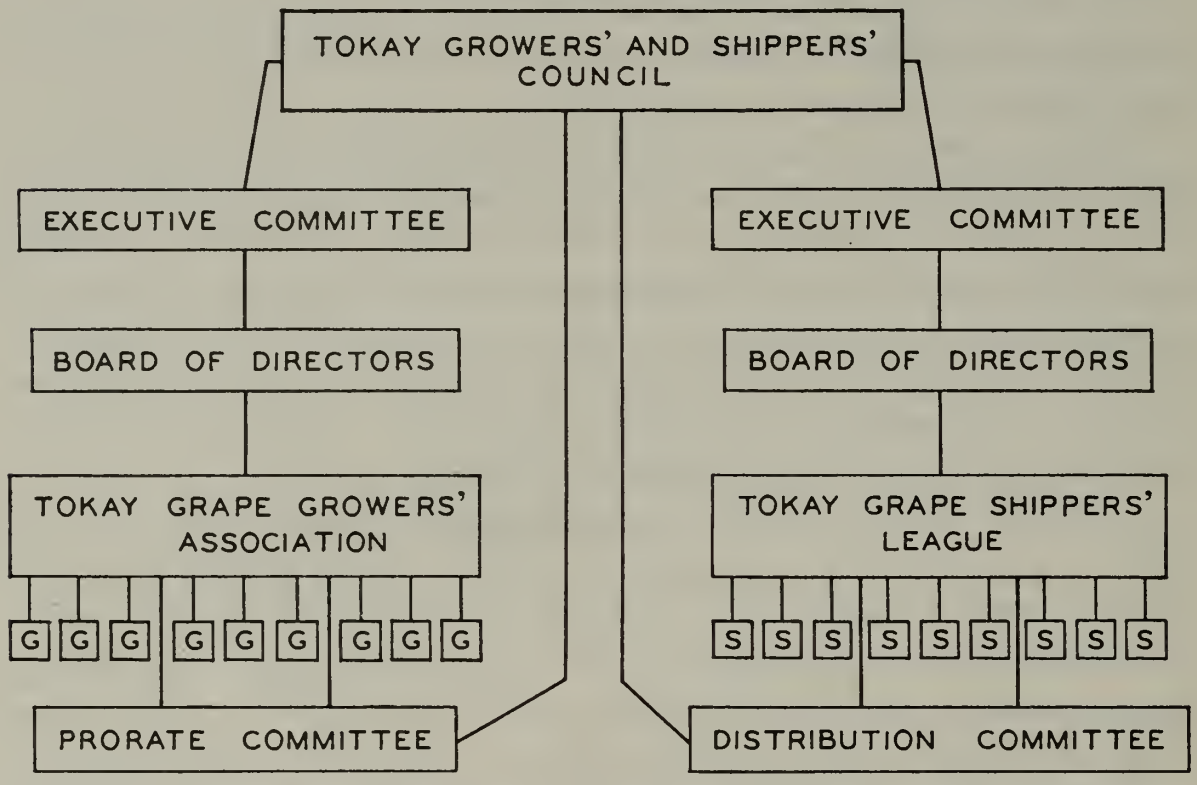
TOKAY GROWERS' AND SHIPPERS' COUNCIL
EXECUTIVE COMMITTEE
EXECUTIVE COMMITTEE
BOARD OF DIRECTORS
BOARD OF DIRECTORS
TOKAY GRAPE GROWERS' ASSOCIATION
TOKAY GRAPE SHIPPERS' LEAGUE
G G G G G G G G G
S S S S S S S S S
PRORATE COMMITTEE
DISTRIBUTION COMMITTEE

Fig. 10.—Growers would be members of the Tokay Grape Growers' Association and shippers of the Tokay Grape Shippers' League. A Tokay Growers' and Shippers' Council would be composed of the executive committees of each organization.

from a long-time point of view, the results are not likely to meet the present situation.

Of the several measures discussed above, the restriction of the quantity marketed in large crop years or in years of low consumer purchasing power or both appears the most promising. See pages 50 to 56 for a discussion of shipment restriction.

From the analysis of the factors affecting prices in the important market areas (pages 16 to 22) and the analysis of the operations of the Tokay Grape Clearing House (pages 45 to 49), the conclusion was reached that a planned distribution program is desirable. The foregoing data showed that returns to growers could be increased by putting equal pressure on all markets instead of marketing a given supply in such a manner that there was unequal pressure on the most important markets. The

difficulty of attaining such an objective in the absence of a planned distribution program was also pointed out.

Recommendations. — The problems of the Tokay grape industry (pages 60 to 61), the trade relations which were found to exist (pages 38 to 43), and the results of previous attempts in industry-wide effort, point to the desirability of the establishment of two separate organizations, one composed of growers and the other of shippers, which for convenience will be called the Tokay Grape Growers' Association and the Tokay Grape Shippers' League. See figure 10. It is also desirable that a third agency be formed to coordinate the activities of the two organizations when mutual problems arise, which, as is indicated in figure 10, may be called the Tokay Growers' and Shippers' Council.

The primary objective of the Tokay Grape Growers' Association would be to conduct shipment-restriction programs in those years in which this body deemed such action advisable. When shipment restriction is undertaken it would assume the responsibility of determining (1) the method of prorating shipments among growers, (2) the volume of shipments to be marketed from time to time, and (3) the manner in which such program would be supervised or enforced. In case of disagreement between the organization and the Tokay Shippers' League concerning the volume to be marketed the authority for final decision should rest with the former organization. This organization might also cooperate with similar organizations which might be formed in other grape-producing areas in California to undertake shipment restriction with other varieties. Other objectives would include the representation of growers in problems of general interest such as in the formulation of standard packs, and grades and in hearings before public bodies.

The primary objective of the Tokay Shippers' League would be to conduct a planned distribution program, that is, this body would, with a given volume to market, decide the quantities to be placed in the most important market areas. See pages 45 to 48 for a detailed discussion of such activities and methods of conducting a planned distribution program. Other objectives would include the collection and dissemination of current market information.

The objective of the Tokay Grape Growers' and Shippers' Council would be to coordinate the activities of the growers' and shippers' organizations when problems of mutual interest arose. It is probable that such a council would meet frequently during the principal marketing season because if shipment restriction is undertaken the experience and judgment of shippers is valuable when the problem of determining the volume to be marketed from time to time is under consideration. This

council might also arbitrate disputes which might arise among growers concerning their allotments when shipments are prorated.[38]

The recommendation is also made that when a shipment-restriction program is employed growers' shipping allotments be made directly to them in the form of certificates. This recommendation together with the reasons for its proposal is outlined in pages 55 to 56.

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Miss Ellen Hawley, Editorial Assistant, corrected the manuscript and suggested important changes in the organization of the material.

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Mr. E. W. Stillwell and Mr. W. F. Cox gave liberally of their time in assisting the author in assembling and interpreting the original data. They also made available to the author unpublished data.

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[38] During the period this bulletin was in press, Tokay grape growers and shippers applied to the Agricultural Adjustment Administration of the United States Department of Agriculture for a marketing agreement with the Secretary of Agriculture under the terms of the Agricultural Adjustment Act (Public—No. 10—73d Congress). The agreement provides for an Executive Committee whose duties correspond closely to those outlined for the Tokay Growers' and Shippers' Council; a Sales Managers Committee whose duties are similar to those proposed for the Tokay Grape Shippers' League; and a Proration Committee whose primary function is that outlined for the Tokay Grape Growers' Association. In addition, an organization of growers has been perfected known as "The Tokay Grape Growers." The records of this organization are being utilized by the Proration Committee set up in the marketing agreement with the Secretary of Agriculture.

APPENDIX

TABLE 18

TOKAY GRAPE SALES AND PRICES IN DOLLARS PER PACKAGE IN ELEVEN AUCTION MARKETS, BY WEEKS, 1929–1932

1929

Week ending	Packages sold	Average price	Packages sold	Average price	Packages sold	Average price	Packages sold	Average price	Packages sold	Average price	Packages so'd	Average price
	Eleven markets		Baltimore		Boston		Chicago		Cincinnati		Cleveland	
September 7	35,423	2.15	—*	—	3,953	2.30	8,626	2.15	968	2.56	1,009	3.19
14	102,954	1.81	962	2.09	14,552	1.81	19,380	1.81	3,529	2.27	6,051	1.95
21	165,566	1.58	5,846	1.81	21,692	1.69	29,328	1.47	6,579	1.48	8,726	1.49
28	198,290	1.41	10,512	1.46	28,646	1.56	21,235	1.36	7,779	1.17	9,562	1.27
October 5	155,015	1.64	5,660	1.92	24,935	1.62	22,637	1.77	8,020	1.42	5,735	1.78
12	236,629	1.38	10,198	1.59	39,568	1.25	29,987	1.41	4,541	1.42	14,808	1.35
19	287,252	1.16	14,963	1.24	36,195	1.21	34,837	1.19	10,220	1.17	17,642	1.11
26	264,593	1.20	17,729	1.26	30,474	1.30	33,491	1.13	11,916	1.14	16,060	1.09
November 2	223,442	1.37	10,399	1.32	35,088	1.28	34,501	1.39	9,782	1.36	9,213	1.31
9	188,385	1.59	7,119	1.67	21,203	1.48	31,925	1.50	5,169	1.92	8,980	1.66
	Detroit		Minneapolis		New York		Philadelphia		Pittsburgh		St. Louis	
September 7	2,420	2.08	1,417	2.63	7,840	2.01	5,010	1.98	2,146	2.29	2,036	2.19
14	5,885	1.56	2,022	2.05	27,304	1.64	15,275	2.02	1,892	2.52	6,102	1.62
21	9,877	1.36	6,850	1.61	30,140	1.65	18,900	1.73	17,278	1.47	10,350	1.67
28	8,307	1.44	7,889	1.56	55,880	1.32	29,772	1.43	14,477	1.56	5,231	1.52
October 5	4,091	1.65	7,478	1.52	33,835	1.59	28,438	1.59	9,691	1.47	4,495	1.78
12	9,633	1.25	9,077	1.37	48,985	1.43	39,531	1.39	12,624	1.30	17,677	1.29
19	11,958	1.05	9,175	1.35	81,685	1.10	40,675	1.25	21,831	1.09	8,071	1.27
26	7,646	1.12	12,116	1.24	53,915	1.28	53,095	1.20	17,358	1.17	10,793	1.13
November 2	5,152	1.28	8,563	1.45	63,125	1.44	28,389	1.46	12,826	1.35	6,404	1.39
9	6,272	1.84	6,003	1.43	53,670	1.64	30,556	1.51	8,111	1.49	9,379	1.58

TABLE 18—*(Continued)*

1930

Week ending	Packages sold	Average price	Packages sold	Average price	Packages sold	Average price	Packages sold	Average price	Packages sold	Average price	Packages sold	Average price
	Eleven markets		Baltimore		Boston		Chicago		Cincinnati		Cleveland	
September 6	49,235	1.89	945	2.30	5,918	2.44	9,341	1.73	3,431	1.76	3,729	1.97
13	95,581	1.80	1,735	2.16	18,838	2.07	20,936	1.53	5,979	1.74	4,583	1.72
20	159,082	1.46	4,479	1.95	19,556	1.41	25,111	1.33	6,930	1.40	8,301	1.26
27	264,446	1.22	9,065	1.46	34,079	1.42	27,239	1.04	8,641	1.14	10,419	1.11
October 4	322,830	1.08	16,017	1.10	64,477	0.94	27,402	1.16	10,670	1.17	11,885	1.09
11	227,667	1.33	10,164	1.37	27,720	1.48	21,187	1.36	5,555	1.36	14,017	1.17
18	202,102	1.56	8,674	1.63	23,460	1.76	31,963	1.46	9,415	1.67	8,102	1.67
25	213,357	1.45	5,716	1.37	25,225	1.29	32,286	1.40	10,096	1.31	13,210	1.32
November 1	450,982	0.90	15,750	1.10	63,762	0.87	57,752	0.90	18,569	0.97	22,822	0.98
8	493,320	0.70	19,773	0.75	78,954	0.68	55,938	0.73	20,436	0.81	25,959	0.73
	Detroit		Minneapolis		New York		Philadelphia		Pittsburgh		St. Louis	
September 6	2,712	1.97	4,315	1.66	8,975	1.99	1,673	2.61	3,737	1.70	4,459	1.31
13	3,769	1.91	6,350	1.46	16,240	1.79	11,721	1.92	1,657	2.24	3,773	1.69
20	7,454	1.39	7,154	1.51	39,215	1.49	22,514	1.65	6,573	1.49	11,795	1.31
27	12,601	1.03	9,617	1.22	80,282	1.16	47,147	1.30	17,396	1.09	7,960	1.17
October 4	16,186	1.07	9,607	1.15	75,805	1.16	54,971	1.04	20,264	1.08	15,546	1.13
11	4,786	1.44	5,970	1.36	78,525	1.33	33,132	1.21	17,709	1.27	8,702	1.40
18	11,564	1.40	4,337	1.61	47,605	1.66	34,910	1.42	9,638	1.47	12,434	1.43
25	8,948	1.53	6,602	1.24	62,615	1.58	26,712	1.58	12,352	1.30	9,595	1.42
November 1	27,529	0.85	11,439	0.97	118,370	0.99	59,288	0.86	28,187	0.82	27,514	0.93
8	23,143	0.66	11,145	0.81	160,580	0.68	54,486	0.67	17,926	0.73	24,980	0.77

TABLE 18—*(Continued)*

1931

Week ending	Packages sold	Average price	Packages sold	Average price	Packages sold	Average price	Packages sold	Average price	Packages sold	Average price	Packages sold	Average price
	Eleven markets		Baltimore		Boston		Chicago		Cincinnati		Cleveland	
August 29	31,203	2.31	1,174	2.60	4,816	2.43	5,189	2.04	1,356	2.17	1,740	2.23
September 5	60,029	1.79	1,305	2.36	9,479	1.97	13,000	1.65	3,527	1.63	1,637	2.05
12	85,475	1.63	2,508	1.62	16,811	1.61	13,488	1.61	1,349	1.63	3,799	1.24
19	164,160	1.37	6,231	1.59	29,072	1.37	18,719	1.34	5,068	1.59	3,386	1.52
26	158,672	1.52	5,814	1.48	26,205	1.48	22,537	1.48	5,718	1.45	5,072	1.37
October 3	151,857	1.72	6,033	1.80	26,283	1.68	19,073	1.68	4,362	1.82	3,126	1.70
10	148,212	1.85	5,460	1.65	21,521	1.81	20,469	1.81	4,446	1.92	2,780	1.75
17	141,054	1.81	4,201	2.08	15,820	1.93	19,210	1.65	6,346	1.74	4,995	1.74
24	187,068	1.62	5,511	1.87	31,565	1.52	21,858	1.69	8,260	1.45	4,504	1.59
31	179,152	1.51	8,769	1.51	25,250	1.47	25,246	1.45	6,229	1.34	5,782	1.40
November 7	125,621	1.57	4,533	1.68	17,855	1.54	15,844	1.33	4,712	1.51	2,120	1.52
	Detroit		Minneapolis		New York		Philadelphia		Pittsburgh		St. Louis	
August 29	1,679	1.99	2,936	2.23	4,885	2.39	4,827	2.58	879	2.37	1,722	2.14
September 5	—	—	3,493	1.94	13,435	1.68	10,063	1.79	3,283	1.87	807	2.16
12	1,718	1.38	6,353	1.62	14,255	1.92	14,604	1.72	4,977	1.36	5,613	1.43
19	3,882	1.48	7,777	1.53	51,810	1.36	30,185	1.21	4,793	1.56	3,237	1.36
26	6,228	1.32	10,393	1.34	44,955	1.67	18,310	1.59	9,539	1.40	3,901	1.53
October 3	4,140	1.72	4,714	1.87	48,165	1.73	23,036	1.78	7,793	1.72	5,132	1.87
10	4,436	1.72	8,986	1.76	48,475	1.90	21,127	1.88	4,706	1.82	5,806	1.83
17	4,113	1.69	6,588	1.69	43,985	1.83	22,443	1.91	6,913	1.65	6,440	1.79
24	6,826	1.60	7,607	1.64	60,775	1.65	27,147	1.62	5,052	1.77	7,963	1.51
31	5,600	1.39	7,784	1.62	56,090	1.58	22,224	1.54	6,896	1.40	9,282	1.44
November 7	3,088	1.43	5,411	1.52	44,385	1.68	18,967	1.65	4,373	1.55	4,333	1.33

TABLE 18—*(Concluded)*

1932

Week ending	Packages sold	Average price	Packages sold	Average price	Packages sold	Average price	Packages sold	Average price	Packages sold	Average price	Packages sold	Average price
	Eleven markets		Baltimore		Boston		Chicago		Cincinnati		Cleveland	
September 3	57,697	1.01	1,816	0.95	11,522	0.98	6,907	0.98	—	—	4,411	1.01
10	33,028	1.36	1,442	1.86	7,208	1.38	2,370	1.35	1,882	1.25	1,608	1.36
17	61,282	1.52	3,314	1.78	9,558	1.61	7,763	1.49	1,539	1.64	1,792	1.43
24	94,590	1.28	4,226	1.52	14,853	1.33	13,505	1.20	3,564	1.46	3,800	1.12
October 1	159,719	1.06	6,555	1.16	31,861	1.06	18,179	0.91	7,423	0.95	5,809	0.89
8	182,914	0.97	8,026	1.03	31,769	0.97	18,879	1.00	4,262	1.09	3,797	1.01
15	123,251	1.23	4,716	1.23	17,694	1.24	18,786	1.13	3,501	1.13	3,040	1.17
22	146,074	1.22	7,224	1.28	26,243	1.21	16,352	1.19	4,995	1.17	5,406	1.26
29	152,685	1.12	6,427	1.20	20,852	1.13	18,540	1.06	6,186	1.09	6,989	0.96
November 5	179,748	1.00	7,708	1.00	27,638	1.03	19,390	0.86	8,154	0.96	6,378	0.89
	Detroit		Minneapolis		New York		Philadelphia		Pittsburgh		St. Louis	
September 3	2,490	0.91	985	1.14	13,375	0.94	10,363	1.14	1,608	1.09	4,220	0.99
10	350	1.78	2,541	1.36	8,985	1.32	4,553	1.44	697	1.77	2,392	0.95
17	2,568	1.55	2,785	1.74	16,460	1.36	12,986	1.50	1,655	1.89	862	1.59
24	2,821	1.14	5,049	1.22	21,855	1.24	12,973	1.32	5,520	1.15	6,424	1.22
October 1	3,508	0.97	6,027	1.02	40,400	1.16	30,489	1.08	3,988	1.11	5,480	1.13
8	6,504	0.95	7,075	0.96	55,805	0.92	29,352	0.98	7,361	1.01	10,084	0.98
15	1,201	1.29	3,400	1.32	38,990	1.29	22,674	1.22	5,378	1.13	3,871	1.26
22	2,430	1.27	6,208	1.20	44,320	1.25	20,358	1.19	6,943	1.12	5,595	1.20
29	2,569	1.02	7,196	1.11	45,735	1.18	22,205	1.16	4,468	1.07	11,518	1.06
November 5	3,221	0.84	7,745	0.92	54,540	1.07	30,583	1.02	8,277	0.95	6,214	0.89

* Dashes indicate data not available.

Sources of data:

1929: Googe, W. D. Marketing California grapes, summary of 1929 season. U. S. Dept. Agr. Bur. Agr. Econ. August, 1930. (Mimeo.)
1930: Googe, W. D. Marketing California grapes, summary of 1930 season. U. S. Dept. Agr. Bur. Agr. Econ. July, 1931. (Mimeo.)
1931: Prugh, A. E. Marketing California grapes, summary of 1931 season. U. S. Dept. Agr. Bur. Agr. Econ. May, 1932. (Mimeo.)
1932: U. S. Dept. Agr. Bur. Agr. Econ. State and federal marketing service: Grapes. 1933.

TABLE 19

DISTRIBUTION OF SALES OF TOKAY GRAPES AMONG ELEVEN AUCTION MARKETS, 1929–1932

1929

Week ending	Packages sold	Per cent of total	Packages sold	Per cent of total	Packages sold	Per cent of total	Packages sold	Per cent of total	Packages sold	Per cent of total	Packages sold	Per cent of total
	Eleven markets		Baltimore		Boston		Chicago		Cincinnati		Cleveland	
September 7	35,423	100	0	0	3,953	11	8,626	24	968	3	1,009	3
14	102,954	100	962	1	14,552	14	19,380	19	3,529	3	6,051	6
21	165,566	100	5,846	4	21,692	13	29,328	18	6,579	4	8,726	5
28	198,290	100	10,512	5	28,646	14	21,235	11	7,779	4	9,562	5
October 5	155,015	100	5,660	4	24,935	16	22,637	14	8,020	5	5,735	4
12	236,629	100	10,198	4	39,568	17	29,987	13	4,541	2	14,808	6
19	287,252	100	14,963	5	36,195	13	34,837	12	10,220	4	17,642	6
26	264,593	100	17,729	7	30,474	11	33,491	13	11,916	4	16,060	6
November 2	223,442	100	10,399	5	35,088	16	34,501	15	9,782	4	9,213	4
9	188,385	100	7,119	4	21,203	11	31,925	17	5,167	3	8,980	5
Average	.....	100	.....	4	.....	14	.....	15	.....	4	.....	5
	Detroit		Minneapolis		New York		Philadelphia		Pittsburgh		St. Louis	
September 7	2,420	7	1,417	4	7,840	22	5,010	14	2,146	6	2,036	6
14	5,885	6	2,022	2	27,304	26	15,275	15	1,892	2	6,102	6
21	9,877	6	6,850	4	30,140	18	18,900	12	17,278	10	10,350	6
28	8,307	4	7,889	4	55,880	28	29,772	15	14,477	7	5,231	3
October 5	4,091	3	7,478	5	33,835	22	28,438	18	9,691	6	4,495	3
12	9,633	4	9,077	4	48,985	21	39,531	17	12,624	5	17,677	7
19	11,958	4	9,175	3	81,685	28	40,675	14	21,831	8	8,071	3
26	7,646	3	12,116	5	53,915	20	53,095	20	17,358	7	10,793	4
November 2	5,152	2	8,563	4	63,125	28	28,389	13	12,826	6	6,404	3
9	6,272	3	6,003	3	53,670	28	30,556	16	8,111	5	9,379	5
Average	.....	4	.....	4	.....	24	.....	15	.....	6	.....	5

TABLE 19—*(Continued)*

1930

Week ending	Packages sold	Per cent of total	Packages sold	Per cent of total	Packages sold	Per cent of total	Packages sold	Per cent of total	Packages sold	Per cent of total	Packages sold	Per cent of total
	Eleven markets		Baltimore		Boston		Chicago		Cincinnati		Cleveland	
September 6	49,235	100	945	2	5,918	12	9,341	19	3,431	7	3,729	7
13	95,581	100	1,735	2	18,838	20	20,936	22	5,979	6	4,583	5
20	159,082	100	4,479	3	19,556	12	25,111	16	6,930	4	8,301	5
27	264,446	100	9,065	3	34,079	13	27,239	10	8,641	3	10,419	4
October 4	322,830	100	16,017	5	64,477	20	27,402	9	10,670	3	11,885	4
11	227,467	100	10,164	4	27,720	12	21,187	9	5,555	2	14,017	6
18	202,102	100	8,674	4	23,460	12	31,963	16	9,415	5	8,102	4
25	213,357	100	5,716	3	25,225	12	32,286	15	10,096	5	13,210	6
November 1	450,982	100	15,750	4	63,762	14	57,752	13	18,569	4	22,822	5
8	493,320	100	19,773	4	78,954	16	55,938	11	20,436	4	25,959	5
Average	.....	100	.....	3	.....	14	.....	14	.....	4	.....	5
	Detroit		Minneapolis		New York		Philadelphia		Pittsburgh		St. Louis	
September 6	2,712	6	4,315	9	8,975	18	1,673	3	3,737	8	4,459	9
13	3,769	4	6,350	6	16,240	17	11,721	12	1,657	2	3,773	4
20	7,454	5	7,154	5	39,215	25	22,514	14	6,573	4	11,795	7
27	12,601	5	9,617	4	80,282	30	47,147	18	17,396	7	7,960	3
October 4	16,186	5	9,607	3	75,805	23	54,971	17	20,264	6	15,546	5
11	4,786	2	5,970	3	78,525	35	33,132	15	17,709	8	8,702	4
18	11,564	6	4,337	2	47,605	23	34,910	17	9,638	5	12,434	6
25	8,948	4	6,602	3	62,615	29	26,712	12	12,352	6	9,595	5
November 1	27,529	6	11,439	3	118,370	26	59,288	13	28,187	6	27,514	6
8	23,143	5	11,145	2	160,580	33	54,486	11	17,926	4	24,980	5
Average	.....	5	.....	4	.....	26	.....	14	.....	6	.....	5

TABLE 19—*(Continued)*

1931

Week ending	Packages sold	Per cent of total	Packages sold	Per cent of total	Packages sold	Per cent of total	Packages sold	Per cent of total	Packages sold	Per cent of total	Packages sold	Per cent of total
	Eleven markets		Baltimore		Boston		Chicago		Cincinnati		Cleveland	
August 29	31,203	100	1,174	4	4,816	15	5,189	17	1,356	4	1,740	6
September 5	60,029	100	1,305	2	9,479	16	13,000	22	3,527	6	1,637	3
12	85,475	100	2,508	3	16,811	20	13,488	16	1,349	2	3,799	4
19	164,160	100	6,231	4	29,072	18	18,719	11	5,068	3	3,386	2
26	158,672	100	5,814	4	26,205	17	22,537	14	5,718	4	5,072	3
October 3	151,857	100	6,033	4	26,283	17	19,073	13	4,362	3	3,126	2
10	148,212	100	5,460	4	21,521	14	20,469	14	4,446	3	2,780	2
17	141,054	100	4,201	3	15,820	11	19,210	14	6,346	4	4,995	3
24	187,068	100	5,511	3	31,565	17	21,858	12	8,260	4	4,504	2
31	179,152	100	8,769	5	25,250	14	25,246	14	6,229	4	5,782	3
November 7	125,621	100	4,533	4	17,855	14	15,844	13	4,712	4	2,120	2
Average	.....	100	.....	4	.....	16	.....	14	.....	4	.....	3
	Detroit		Minneapolis		New York		Philadelphia		Pittsburgh		St. Louis	
August 29	1,679	5	2,936	9	4,885	16	4,827	15	879	3	1,722	6
September 5	0	0	3,493	6	13,435	22	10,063	17	3,283	5	807	1
12	1,718	2	6,353	7	14,255	17	14,604	17	4,977	6	5,613	6
19	3,882	2	7,777	5	51,810	32	30,185	18	4,793	3	3,237	2
26	6,228	4	10,393	6	44,955	28	18,310	12	9,539	6	3,901	2
October 3	4,140	3	4,714	3	48,165	32	23,036	15	7,793	5	5,132	3
10	4,436	3	8,986	6	48,475	33	21,127	14	4,706	3	5,806	4
17	4,113	3	6,588	5	43,985	31	22,443	16	6,913	5	6,440	5
24	6,826	4	7,607	4	60,775	32	27,147	15	5,052	3	7,963	4
31	5,600	3	7,784	4	56,090	31	22,224	13	6,896	4	9,282	5
November 7	3,088	2	5,411	4	44,385	35	18,967	15	4,373	4	4,333	3
Average	.....	3	.....	5	.....	28	.....	15	.....	4	.....	4

TABLE 19—*(Concluded)*

1932

Week ending	Packages sold	Per cent of total	Packages sold	Per cent of total	Packages sold	Per cent of total	Packages sold	Per cent of total	Packages sold	Per cent of total	Packages sold	Per cent of total
	Eleven markets		Baltimore		Boston		Chicago		Cincinnati		Cleveland	
September 3	57,697	100	1,816	3	11,522	20	6,907	12	—*	—	4,411	8
10	33,028	100	1,442	4	7,208	22	2,370	7	882	3	1,608	5
17	61,282	100	3,314	5	9,558	16	7,763	13	1,539	3	1,792	3
24	94,590	100	4,226	4	14,853	16	13,505	14	3,564	4	3,800	4
October 1	159,719	100	6,555	4	31,861	20	18,179	11	7,423	5	5,809	4
8	182,914	100	8,026	4	31,769	17	18,879	10	4,262	2	3,797	2
15	123,251	100	4,716	4	17,694	14	18,786	15	3,501	3	3,040	2
22	146,074	100	7,224	5	26,243	18	16,352	11	4,995	3	5,406	4
29	152,685	100	6,427	4	20,852	14	18,540	12	6,186	4	6,989	4
November 5	179,748	100	7,708	4	27,538	15	19,390	11	8,154	5	6,378	4
Average	.....	100	.....	4	.....	17	.....	12	.....	4	.....	4
	Detroit		Minneapolis		New York		Philadelphia		Pittsburgh		St. Louis	
September 3	2,490	4	985	2	13,375	23	10,363	18	1,608	3	4,220	7
10	350	1	2,541	8	8,985	27	4,553	14	697	2	2,392	7
17	2,568	4	2,785	4	16,460	27	12,986	21	1,655	3	862	1
24	2,821	3	5,049	5	21,855	23	12,973	14	5,520	6	6,424	7
October 1	3,508	2	6,027	4	40,400	25	30,489	19	3,988	3	5,480	3
8	6,504	4	7,075	4	55,805	31	29,352	16	7,361	4	10,084	6
15	1,201	2	3,400	3	38,990	32	22,674	18	5,378	4	3,871	3
22	2,430	2	6,208	4	44,320	30	20,358	14	6,943	5	5,595	4
29	2,569	2	7,196	5	45,735	30	22,205	14	4,468	3	11,518	8
November 5	3,221	2	7,745	4	54,540	30	30,583	17	8,277	5	6,214	3
Average	.....	3	.....	4	.....	28	.....	17	.....	4	.....	5

* Dashes indicate data not available.

Sources of data:

1929: Googe, W. D. Marketing California grapes, summary of 1929 season. U. S. Dept. Agr. Bur. Agr. Econ. August, 1930. (Mimeo.)
1930: Googe, W. D. Marketing California grapes, summary of 1930 season. U. S. Dept. Agr. Bur. Agr. Econ. July, 1931. (Mimeo.)
1931: Prugh, A. E. Marketing California grapes. summary of 1931 season. U. S. Dept. Agr. Bur. Agr. Econ. May, 1932. (Mimeo.)
1932: U. S. Dept. Agr. Bur. Agr. Econ. State and federal marketing service: Grapes. 1933.

TABLE 20

WEIGHTED AVERAGE PRICES OF CALIFORNIA TABLE GRAPES,* IN DOLLARS PER PACKAGE, EXCEPT TOKAYS, IN ELEVEN AUCTION MARKETS AND IN BOSTON, CHICAGO, PHILADELPHIA, AND NEW YORK, 1929–1932

Week ending	Eleven auction markets	Boston	Chicago	New York	Philadelphia
1929					
September 7	1.26	1.37	1.33	1.23	1.20
14	1.38	1.38	1.38	1.40	1.32
21	1.45	1.35	1.41	1.58	1.45
28	1.41	1.43	1.36	1.49	1.38
October 5	1.39	1.41	1.43	1.51	1.58
11	1.29	1.23	1.44	1.33	1.22
18	1.19	1.25	1.33	1.16	1.21
25	1.26	1.21	1.36	1.30	1.32
November 2	1.45	1.37	1.60	1.51	1.31
9	1.31	1.46	1.39	1.64	1.17
1930					
September 6	1.41	1.31	1.30	1.61	1.27
13	1.27	1.24	1.30	1.26	1.22
20	1.19	1.00	1.17	1.27	1.18
27	1.15	1.18	1.12	1.20	1.11
October 4	1.22	1.12	1.21	1.31	1.06
11	1.39	1.43	1.30	1.45	1.20
18	1.48	1.39	1.52	1.51	1.44
25	1.42	1.17	1.39	1.58	1.39
November 1	1.06	0.90	1.02	1.12	1.02
8	0.86	0.72	0.97	0.95	0.88
1931					
August 29	1.51	1.78	1.50	1.68	1.95
September 5	1.45	1.36	1.28	1.53	1.36
12	1.34	1.39	1.39	1.40	1.14
19	1.29	1.23	1.15	1.34	1.12
26	1.46	1.37	1.46	1.55	1.31
October 3	1.58	1.59	1.51	1.62	1.51
10	1.54	1.53	1.53	1.61	1.56
17	1.33	1.30	1.38	1.44	1.53
24	1.36	1.23	1.33	1.39	1.22
31	1.30	1.05	1.42	1.39	1.53
November 7	1.36	1.16	1.37	1.42	1.44
1932					
September 3	1.02	0.90	1.06	1.04	1.12
10	1.27	1.22	1.21	1.31	1.31
17	1.25	1.25	1.25	1.21	1.37
24	1.20	1.18	1.10	1.31	1.12
October 1	1.17	1.20	1.07	1.23	1.14
8	1.09	0.94	1.20	1.10	1.16
15	1.22	1.13	1.23	1.22	1.27
22	1.16	1.26	1.11	1.14	1.17
29	1.08	1.04	1.05	1.08	1.16
November 5	1.02	0.95	1.08	1.02	1.19

* Other table grapes are Cornichons, Emperors, Red and White Malagas, and Thompson Seedless.

Sources of data:

1929: Googe, W. D., Marketing California grapes, summary of 1929 season. U. S. Dept. Agr. Bur. Agr. Econ. August, 1930. (Mimeo.)

1930: Googe, W. D., Marketing California grapes, summary of 1930 season. U. S. Dept. Agr. Bur. Agr. Econ. July, 1931. (Mimeo.)

1931: Prugh, A. E. Marketing California grapes, summary of 1931 season. U. S. Dept. Agr. Bur. Agr. Econ. May, 1932. (Mimeo.)

1932: U. S. Dept. Agr. Bur. Agr. Econ. State and federal marketing service: Grapes. 1933.

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